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**TASMANIAN YEAR BOOK**

**1976**





Portrait of Sir Richard Dry by Robert Dowling

[Dept of Film Production]

(By courtesy of the Queen Victoria Museum and Art Gallery)



AUSTRALIAN BUREAU OF STATISTICS  
TASMANIAN OFFICE



**TASMANIAN**

**YEAR BOOK**

**No. 10 : 1976**

**R. LAKIN**

**DEPUTY COMMONWEALTH STATISTICIAN  
AND GOVERNMENT STATISTICIAN OF TASMANIA**

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## PREFACE

This is the tenth issue of the *Tasmanian Year Book*. The Year Book is designed to present a comprehensive statistical and descriptive account of the physical environment and of the social, demographic, economic, etc., structure of the State with particular emphasis on change and development in more recent years.

This edition of the Year Book includes special articles on the following: a biographical profile of Sir Richard Dry and a history of Tasmania during his premiership from 1866 to 1869; the Lagoon of Islands (contributed by Dr P. A. Tyler); a summary of the Draft Management Plan for the South-West National Park; forestry in Tasmania (contributed by the Tasmanian Forestry Commission); descriptions of the operations of United Milk Products Ltd and of the Tasmanian Electro-Metallurgical Co. Pty Ltd; the location of control of business establishments operating in Tasmania; an account of the Tasman Bridge disaster and its effects; astronomy in Tasmania (contributed by Dr M. D. Waterworth); and the relationship between price indexes and inflation. New sections which appear for the first time in this edition are: (i) 'Tourist Accommodation Statistics' (chapter 10) which include statistics compiled from a recent census and from room occupancy surveys of tourist accommodation establishments; and (ii) 'Intercensal Labour Force Estimates' (chapter 17) which includes details of estimates derived from the Bureau's quarterly population surveys.

An index of special articles precedes the general index and covers all such articles included in this edition and in the nine earlier editions of the Year Book.

As far as possible, the latest available statistics at the time of printing and significant developments which have occurred in 1975 have been embodied in each chapter. However, where this has not been practicable, brief details have been included in Appendix A under 'Later Information'. A reasonably detailed description of the new (1975-76) personal income tax system has also been included in Appendix A.

*Metriation:* Most statistics are now collected and compiled in metric units of measurement and the metric system has been used exclusively from the 1975 edition of the Year Book (with the minor exception of apple and pear production). The table on page viii shows the units and conversion factors used to convert data originally compiled in other than metric units.

I gratefully acknowledge the valuable assistance given by officers of the various Federal and State Government Departments and by others who have contributed information, often at considerable trouble, and by those who have provided photographs. Especially I should express my appreciation to the Government Printer and his staff for their enthusiasm and co-operation in the printing of this volume.

More detailed statistics relating to matters treated generally in the Year Book are available in the various statistical bulletins and other publications issued by the Bureau. Information about these publications is provided in the section 'Publication of Tasmanian Statistics'.

The Year book has been compiled under the direction of Mr J. C. Pollard, B.Ec.; Mr D. J. MacLaine, B.A., was responsible for the editing of this issue.

R. LAKIN

*Deputy Commonwealth Statistician  
and  
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Australian Bureau of Statistics,  
HOBART, February 1976

## SYMBOLS AND USAGE

The following symbols, where used, mean:

ASIC	Australian Standard Industrial Classification.
n.a.	Not available.
n.e.c.	Not elsewhere classified.
n.e.i.	Not elsewhere included.
n.p.	Not available for separate publication; included in totals where applicable.
p	Preliminary—figure or series subject to revision.
r	Revision to figure or series published in previous issue.
..	Nil or less than half the unit shown, or not applicable.
—	Break in continuity of the series (where drawn across a column between two consecutive figures).
(H)	Located in Hobart Statistical Division;
(S)	Located in Southern Statistical Division;
(H)(S)	Parts in both Divisions.

A blank space indicates the figure is not yet available.

Any discrepancies between totals and sums of components in tables are due to rounding.

## VALUES AND MEASURES

Values are shown in Australian dollars (\$) and/or cents (c). Metric units have been substituted for imperial units. The use of dollar currency and metric units has not been confined merely to tables; for the sake of uniformity, they have also been introduced into historical texts. See the table overleaf for metric units and conversion factors.

## LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to strangers; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

*North-West Coast:* The *north* coast from approximately Port Sorell, west to Cape Grim is called the *north-west coast*.

*North-East Coast:* The *north* coast from approximately Low Head, east to Cape Portland is called the *north-east coast*. With most of the north coast referred to as either 'north-west' or 'north-east', the term 'north' is rarely applied to this coastal region.

*West Coast:* The Tasmanian *west coast* may refer only to the mining settlements of Queenstown, Rosebery, etc. In other contexts, the user may be thinking of inland mountains and rainforests rather than of a coastline.

*Midlands:* The true *midlands* are probably the Central Plateau but the Tasmanian term means the rural area east of the Plateau and lying along the axis of the Hobart-Launceston road.



(viii)

**METRIC UNITS AND CONVERSION FACTORS**

Unit		Conversion factor	
Imperial	Metric	Imperial to metric (multiply imperial by)	Metric to imperial (multiply metric by)
Length			
Inch (in)	Centimetre (cm)	2.540 00	0.393 701
Foot (ft)	Metre (m)	0.304 800	3.280 84
Mile	kilometre (km)	1.609 34	0.621 371
Area			
Square foot (ft <sup>2</sup> )	Square metre (m <sup>2</sup> )	0.092 903	10.763 9
Square yard (yd <sup>2</sup> )	Square metre (m <sup>2</sup> )	0.836 127	1.195 99
Acre (ac)	Hectare (ha)	0.404 686	2.471 05
Mass			
Ounce (oz)	Gram (g)	28.349 5	0.035 274
Troy ounce (oz tr)	Gram (g)	31.103 5	0.032 150 7
Pound (lb)	kilogram (kg)	0.453 592	2.204 62
Hundredweight (cwt)	kilogram (kg)	50.802 3	0.019 684 1
Short ton (sh ton)	Tonne (t)	0.907 185	1.102 31
Ton	Tonne (t)	1.016 05	0.984 207
Volume			
Cubic foot (ft <sup>3</sup> )	Cubic metre (m <sup>3</sup> )	0.028 316 8	35.314 7
Cubic yard (yd <sup>3</sup> )	Cubic metre (m <sup>3</sup> )	0.764 555	1.307 95
Bushel (bush)	Cubic metre (m <sup>3</sup> )	0.036 368 7	27.496 1
Super foot true	Cubic metre (m <sup>3</sup> )	0.002 359 74	423.776
Super foot hoppus	Cubic metre (m <sup>3</sup> )	0.003 004 51	332.833
Ton measure (40 cubic ft)	Cubic metre (m <sup>3</sup> )	1.132 67	0.882 868
Imperial gallon (gal)	Litre (ℓ)	4.546 09	0.219 969
Proof gallon (pf gal)	Litre alcohol (ℓ al)	2.595 7	0.385 3
Energy			
British thermal unit (Btu)	Kilojoule (kJ)	1.055 06	0.947 813
Power			
Horsepower (hp)	Kilowatt (kW)	0.745 7	1.341 02

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## Chapter 1

### HISTORY AND CHRONOLOGY

#### DISCOVERY

##### The Period of Dutch Exploration

In the works of authors of antiquity, references are found to a land called 'Terra Australis' but it is the Dutch who are credited with the discovery of both mainland Australia and Tasmania. The Dutch, with their trading posts in Java, represented the closest extension of European sea power near the north of the unknown continent and its discovery, either by accident or design, became inevitable.

In 1606, Captain William Jansz in the *Duyfken* was sent from Java to explore the islands of New Guinea and, crossing Torres Straits unawares, coasted along the west of Cape York Peninsula; this was the first of a series of voyages by Dutch captains who, in the next 30 years, acquired some knowledge of the western shores of the unknown land. Not all voyages were undertaken with the aim of exploration—Dirk Hartog's long journey along the western shore of Australia in 1616 resulted from his sailing too far east on the route from Cape of Good Hope to Java. Some later captains on the same route even regarded the western Australian coast as a suitable landfall before turning north for Java—a commentary on the difficulty of navigation when longitude had to be established by dead reckoning.

In 1642, the Dutch East India Company despatched from Java an expedition of two vessels, the *Heemskirk* and *Zeehan*, under Captain Abel Tasman, with instructions to investigate the extent of the unknown land thought to exist between New Guinea and the western coast of Australia. One immediate aim of the Governor-General, Anthony Van Diemen, was to find a southern route from Java to Chile so that ships of the company could either trade or plunder along the Pacific coast of South America; a question to be resolved was whether any land mass extending far south blocked such a route.

The original plan was to sail west to Mauritius, to run down to 52° or 54° south latitude and then to proceed east; assuming no land was discovered, it was then intended to turn north in either the longitude of eastern New Guinea or possibly of the Solomons. If Tasman had followed this plan in every detail he might have discovered the east coast of Australia, anticipating Cook's work by more than a century. As it turned out, the extreme southern latitudes were too hostile and accordingly Tasman was sailing east in latitude 42° south when he sighted the mountainous west coast of Tasmania on 24 November 1642.

The Dutch navigator skirted the south coast and made a landing on the east coast for water in Blackman Bay (from an anchorage south of Marion Bay). He then sailed north to St Patricks Head, crossed the Tasman sea and discovered New Zealand, returning to Java by a route to the north of New Guinea. Tasman had thus performed the feat of circumnavigating Australia in a single voyage without once sighting the Australian continent.

In honour of the Governor-General of the Indies, he named the first discovery Van Diemen's Land, imagining it to be the most southern extension of the Australian continent, an illusion that was only completely dispelled by Bass and Flinders when they circumnavigated the island in 1798. The Dutch did not follow up the discoveries of Tasman or their other explorers because they were interested in establishing trading posts only among peoples with a higher degree of civilisation than the natives of Tasmania or Australia appeared to possess. (Tasman's crew saw no natives in Tasmania but inferred their existence from sounds, cuts in trees and the smoke of fires.)

### The Period of British and French Exploration

One hundred and thirty years passed before Tasmania was visited again, this time by the French navigator Marion du Fresne in 1772; he virtually repeated Tasman's original landfall, skirted the south coast and came to anchor in the bay that bears his name (Marion). His visit is memorable for the first contact between Europeans and Tasmanians and for the slaying of the first native by gunfire. Du Fresne himself was killed by Maoris in New Zealand on the same voyage.

A year later, Captain Tobias Furneaux in the *Adventure* became separated from Captain Cook in the *Resolution* on the route to New Zealand and made for Tasmania to obtain water. He eventually anchored off Bruny Island in Adventure Bay but mistakenly believed himself to be in the area of Tasman's original landing which was at least 70 kilometres to the north-east. From this original error sprang a confusion in nomenclature which persists to this day (e.g. Frederick Henry Bay, first named in Tasman's record, appears on maps in an area that Tasman did not even see). Furneaux then sought to investigate the possibility of a strait separating Tasmania from the continent recently explored by Cook, but shoals in the islands bearing his name (Furneaux Group) caused him to abandon the project and make for New Zealand.

In 1777, Cook, on his third voyage, used the Adventure Bay anchorage without detecting Furneaux's navigational errors.

The settlement at Port Jackson in N.S.W. in 1788 put Tasmania on a major sailing route, the First Fleet passing south of the island on its way. To have sailed north of the island would have invited shipwreck on the Australian 'mainland' of which Tasmania was then believed to be part. In the same year, Captain William Bligh put into Adventure Bay with the *Bounty* on his way to Tahiti and to the famous mutiny; he had been on Bruny Island before, as Cook's sailing master.

Captain Cox of the *Mercury* anchored in the Bay known as Cox Bight in 1789, charted some of the south coast and explored the strait between Maria Island and the east coast.

The next visitor (1792) was Admiral Bruny D'Entrecasteaux commanding *Recherche* and *Esperance* and searching for La Perouse who had not been heard of since 1788 when he sailed from Botany Bay. The Admiral sailed north hoping to anchor in Adventure Bay, but a navigational error put his ships too far west with the happy result that he discovered the magnificent channel separating Bruny Island from the Tasmanian mainland and was the first to sail up the Derwent River. Leaving Tasmania, the expedition sailed as far west as Cape Leeuwin in Western Australia when it became imperative to take on water. It is an indication of the lack of knowledge then available that D'Entrecasteaux had to return to Adventure Bay to fill his casks. In the same year, Bligh put into Adventure Bay on his way to obtain breadfruit trees in the Pacific for transplanting in the West Indies.



The year 1794 was notable for the visit of Commodore John Hayes who had sailed from India with the *Duke of Clarence* and the *Duchess*; he explored the Derwent as far as Mt Direction and named Risdon Cove, later to be the site of the first settlement.

### **Tasmania an Island**

Two voyages now followed which established that Tasmania was an island. Surgeon George Bass in a whaleboat left Port Jackson in 1797, rounded Wilsons Promontory and discovered Western Port. The nature of tides and swells encountered told Bass that here was no bay but rather a strait of considerable magnitude. In 1798, Bass and Flinders were given the sloop *Norfolk* to decide the question for all time and they circumnavigated the island, commencing on a westerly course along the north coast where they discovered the Tamar Estuary.

### **Fear of the French**

In the original annexation of Australian territory by Cook in 1770, Tasmania was excluded since the southern limit was proclaimed as 38° south latitude. Formal possession of Tasmania was taken by Governor Phillip on 26 January 1788, when he read his commission to the people of the First Fleet at Sydney Cove. Now that it was established that Tasmania was an island, the authorities both in London and Sydney felt that some steps should be taken to block the French from making any claims to possession. The urgency of doing this was underlined by the arrival in D'Entrecasteaux Channel of Admiral Baudin with the *Geographe* and *Naturaliste* in 1802. The expedition's navigator, Freycinet, charted Tasman and Forestier Peninsulas and correctly identified the Frederick Henry Bay of the Dutch era. The expedition then called at Port Jackson before sailing south into Bass Strait where it was intercepted at King Island by Lieutenant Robbins in the *Cumberland*. Announcing his intention boldly to the French Admiral, the Lieutenant disembarked his small company and formally annexed the island in the name of King George III. Governor King at Port Jackson who gave Robbins his instructions was not satisfied that merely formal acts of annexation would block the French indefinitely and decided that permanent settlements were required if British Sovereignty were to be retained. To this decision can be attributed the settlement at Risdon (1803) and the Hobart and Port Dalrymple settlements of 1804.

### **Geography of the Original Landing**

The State map published by the Tasmanian Lands and Surveys Department (1:250 000) makes easy the recognition of Tasman's landings on the east coast. His anchorage was near Visscher Island while the first landing was made by longboats which passed through the narrows into Blackman Bay. The second landing occurred in the south-east of North Bay where a lagoon proved too brackish for filling water casks.

The last landing was made near Tasman Bay where the navigator had hoped to take formal possession of the new land. The surf being too rough to get the longboat ashore, the carpenter swam through the waves, planted the Dutch flag and then fought his way back to the longboat.

## **SETTLEMENT**

### **The First Settlement at Risdon (1803)**

It will be observed that the original explorers of the Island (including the French) had very largely concentrated their attention on the south-east and, in particular, on the sea approaches to the Derwent. Faced with the necessity for establishing a settlement to assert British sovereignty, Governor King had a

number of possible sites to consider, including King Island, Port Phillip and Port Dalrymple (the Tamar Estuary). His eventual choice was the area of the Derwent and he reported his intention to the Admiralty as follows:

'My reasons for making this settlement are the necessity there appears of preventing the French gaining a footing on the east side of these islands; to divide the convicts; to secure another place for obtaining timber with any other natural productions that may be discovered and found useful; the advantages that may be expected by raising grain; and to promote the seal fishery.'

Commissioned to make the Derwent settlement, Lieutenant John Bowen sailed from Sydney with the *Albion* and *Lady Nelson*; the two vessels separated in a gale but were anchored at Risdon by 11 September 1803, when Bowen went ashore. The slenderness of Governor King's resources is apparent from the fact that the settlers—free, convict and military—numbered only 49 and that the *Albion* was a British whaler under temporary charter (she caught three sperm whales on the voyage while becalmed).

The responsibility for the choice of the Risdon site attaches ultimately to Bass who had made detailed investigations of the Derwent in 1798 from the *Norfolk*. He had reported as follows: 'The land at the head of Risdon Creek, on the east side, seems preferable to any other on the banks of the Derwent.' It was not surprising, therefore, that Bowen's commission from Governor King directed him to locate the new settlement in the Risdon area. In actual fact, the site ultimately proved unsuitable due to the inadequate stream and the poor landing place; these handicaps were aggravated by the wretchedness of the human material at Bowen's disposal, a characteristic not altered when the camp was increased to nearly 100 persons.

If the settlement has any claim to fame, it derives from an encounter with natives who descended on the camp on a hunting expedition and who were fired on by the soldiers in a state of panic. Whether the future barbarities of inter-racial war could have been avoided is an open question but this encounter was the first phase of a struggle that ended in the extinction of a race.

The final act of the Risdon settlement was played on 9 August 1804, when the *Ocean* sailed for Port Jackson with Lieutenant Bowen and most of his people; Lieutenant-Governor Collins at the new settlement at Hobart had decided to close down the Risdon camp and held such a low opinion of these early colonists that he retained only thirteen convicts and one free settler.

### The Settlement at Hobart (1804)

If Lieutenant-Governor Collins had carried out his original instructions, then Hobart today might have been the name of the capital of Victoria situated on Port Phillip Bay. The British Cabinet, impressed by Governor King's warnings on possible French penetration, decided to carry out the occupation of Port Phillip direct from Britain and, to this end, commissioned Lieutenant-Colonel Collins (Royal Marines) to command an expedition in the *Calcutta* with the *Ocean* as tender to secure the strategic Bass Strait. Control of the Strait meant that the dangerous 1 100 kilometre journey around Van Diemen's Land was avoided and also prevented a hostile foreign power from threatening British sea lanes in the South Pacific.

The settlers eventually arrived, via Rio De Janeiro and the Cape of Good Hope, and formed a temporary camp near the site of the modern Sorrento township. For a variety of reasons, Collins was unhappy about the locality; he considered navigation hazardous, the soil poor and water inadequate. He was unwilling to

develop promising land at the head of the bay due to the show of strength by large bands of natives and because of its distance from the open sea. Collins had seen the problems of isolation at Sydney and considered a settlement at the head of Port Phillip Bay unduly hazardous. With the wind in the wrong quarter a ship could be locked in the bay for several days thereby defeating the purpose of the settlement—a port to protect and control Bass Strait. Accordingly he wrote for advice to Governor King in Sydney and was left free to decide between the River Derwent and Port Dalrymple as possible sites for transfer of his command. He was probably swayed in his eventual choice of the River Derwent by its reputation as a safe harbour and the fact that Risdon had already been settled.

On 15 February 1804, Collins, with the first detachment from Port Phillip in the *Lady Nelson* and *Ocean*, anchored off the new settlement at Risdon. A quick inspection satisfied Collins that the site was quite unsuitable and he made his own reconnaissance, eventually selecting the area on the western bank known as Sullivans Cove and ordering that the expedition should be disembarked with all its stores in the vicinity of Hunters Island. In the same month, Collins reported to King that his two ships were 'lying within half a cable-length of the shore in nine fathoms of water'; the Lieutenant-Governor had selected gentle slopes for his settlement, located a fine stream running from Mt Wellington and found near the mouth of the stream depths of water which would accept the draught of any vessel of his day (or of the modern era).

The following table shows the early composition of the settlement at Sullivans Cove (but excludes details of the Risdon camp):

Number Actualled at Sullivans Cove, 26 February 1804

Quality	Men	Women	Children
Military establishment .. .. .	26	1	..
Civil establishment .. .. .	6	..	..
Settlers .. .. .	13	5	13
Convicts .. .. .	178	9	8
Supernumeraries .. .. .	(a) 3	..	..
Total .. .. .	226	15	21

(a) Includes one Aboriginal from Port Jackson.

The strength of the Colony was increased to 433 persons in June 1804 when the *Ocean* returned from Port Phillip, where it had taken aboard the balance of the original expedition. From the camp on Sullivans Cove has sprung the present city and port of Hobart.

David Collins was no amateur in the field of colonisation—he had sailed with Governor Phillip as Judge Advocate in the First Fleet in 1788 and had acted as Secretary to the Governor till 1796 when he returned to Britain with excellent recommendations.

### The Settlement on the Tamar (1804)

While the Lieutenant-Governor was still in Port Phillip Bay, wondering where best to settle, he sent his namesake, William Collins, on a voyage of exploration to the Tamar Estuary. William Collins followed the river up as far as the Cataract Gorge and returned to Port Phillip with a good account of the possibilities of the Tamar for settlement; in his absence, however, the Lieutenant-Governor had made up his mind and was already preparing for the expedition to the Derwent.

Later Governor King received a despatch from Lord Hobart (Secretary of State for the Colonies) who, by a grotesque error, recommended the establishment of a settlement at Port Dalrymple 'upon the southern coast of Van Diemen's Land and near the eastern entrance of Bass' Straits'. If Lord Hobart really meant 'south' then Collins' move to the Derwent had anticipated his wishes. However, since Collins had in fact left Port Phillip, was it not necessary to re-occupy Port Phillip or possibly to watch the Strait from Port Dalrymple? King knew that Hobart's despatch was written in ignorance of Collins' move and accordingly decided to use his own initiative without raising questions of geography with the Secretary for Colonies.

In Hobart's despatch, Lieutenant-Colonel William Paterson (New South Wales Corps) was nominated as Lieutenant-Governor of the new colony. Paterson set sail with 57 soldiers and convicts in the *Integrity* and the *Contest* but after a month of adverse winds both ships were forced back to Port Jackson. A second attempt was made using *Buffalo*, *Lady Nelson*, *Francis* and *Integrity* and increasing the party to 181. This time the Tamar was successfully entered but H.M.S. *Buffalo* went aground and was, with some difficulty, brought to anchor in Outer Cove (George Town) on 4 November 1804. Lieutenant-Colonel Paterson decided that *Buffalo* must be immediately unloaded and accepted the Outer Cove site as a suitable camp while he undertook a more detailed reconnaissance of the Tamar.

Although he penetrated as far as the fertile site of Launceston, Paterson made the extraordinary decision to set up his headquarters at the head of West Arm and Founded York Town, while still maintaining small establishments at Outer Cove, Low Head and Green Island. In deciding on York Town, one can only imagine that Paterson was guided purely by the strategic necessity, as was Collins at Sorrento, of being near to Bass Strait and that he gave little thought to the problem of soil fertility and cultivation.

In March 1806, Paterson was willing to admit that York Town was a most unsuitable site and he accordingly moved his headquarters to the present site of Launceston. Today York Town and Risdon have one thing in common—the almost complete absence of any indication that settlements had ever existed.

Paterson, before setting out on his expedition, had been involved in an argument as to his status but Governor King had resolved the matter by dividing Tasmania at the 42° parallel and making Collins and Paterson sovereign in their respective halves, but subordinate to him as Governor.

## SIR RICHARD DRY: PREMIER OF TASMANIA, 1866 to 1869

### Sir Richard Dry: Biographical Profile

On 20 September 1815 at Elphin Farm near Launceston, a son, Richard, was born to Richard Dry Senior and his wife Anne (nee Maugham). Richard was the first son born to the couple who already had two daughters (Harriet and Eliza). After Richard, the Drys had two more children—a daughter, Ellen and another son, William.

#### *Dry Senior*

Dry (senior) was born at Wexford in Ireland and was the son of a gentleman farmer. He was a convict, transported to Botany Bay as a result of his participation in the 1798 Irish Rebellion against the English. Fortunately for Dry his ability was soon recognised and he received appointment to the Commissariat. In 1804 he sailed to Port Dalrymple with Lieutenant-Colonel Paterson's settlement party.



At the new northern settlement, Dry was the assistant in charge of stores and proved to be an industrious and efficient worker. Not content to remain merely a Crown servant, he soon acquired the Elphin Farm property which he developed into a successful pastoral concern. By 1816 the farm had prospered to the extent that Richard Dry (senior) felt he needed to devote his full attention to the property, and he accordingly submitted his resignation from his Government post. (At the time of resignation Dry owned some three to four hundred cattle and about 7 000 sheep and was well on the way to becoming a wealthy colonial squire.) Governor Macquarie was well satisfied with his service and on Dry's retirement Macquarie granted him 203 hectares of land over and above the land already in his possession. Richard Dry chose land from near the North Esk River towards the Meander River and stretching westwards toward Hagley. Dry's estates, by 1821, totalled 352 hectares.

In 1824 the Dry family was the reluctant host to Matthew Brady and his gang. Brady ransacked the Elphin farm but did not harm the occupants.

### *Dry's Education*

Richard Dry (senior) was a firm believer in a sound education for his children and was also a keen sponsor of a universal system of education. Young Richard was sent to a private school conducted by the Reverend John Mackersey at Campbell Town. There were several schools closer to home but these were considered to be inferior to the establishment run by Mackersey. Following several years at Campbell Town, Richard completed his education at the Reverend James Thompson's School in Hobart.

Dry (senior) continued to prosper and in 1828 he purchased the fine property of Belle View on the Meander in the Deloraine district. He renamed the 810 hectare property 'Quamby', an aboriginal name. Dry was now one of the wealthier colonists with several fine estates.

Shortly after Richard Dry (junior) had completed his schooling his parents decided that he should travel overseas to broaden his knowledge and round-off his education. Dry travelled to Mauritius (which, with its varied society, was very different from Tasmania) and visited several British trade centres in India. He returned to Tasmania in 1836, shortly after his 21st birthday.

### *Early Career*

On returning from his overseas tour, Dry joined his father at Quamby to help manage the growing estate and settled into the life of a large land-owner's son. Sports also occupied much of his time and he was a popular participant in Launceston's social life of the day. The younger Dry took a keen interest in colonial politics and affairs and in 1837 the Lieutenant-Governor, Sir John Franklin, impressed by Dry's steady character and personality, placed him on the Commission of Peace. In 1843 Richard Dry (senior) died at the age of 72 years (his wife, Anne, had died some seven years earlier). Young Richard inherited his father's estates—the Quamby estate had grown to 12 140 hectares. (Two properties 'Adelphi' and 'Hagley' had been absorbed into the Quamby estate.) The homestead at Quamby was one of the finest in the Colony—around the actual house were 4.8 hectares of garden, hot houses and stables and nearby, a two-storey brick residence for the estate manager. The homestead itself included a magnificent ball-room (scene of many of the leading social events of the Colony), a billiard room, a well stocked library and a spacious entry hall.

*Nominee Member of the 'Old' Legislative Council*

Richard Dry (junior) was well respected by his fellow colonists and his sincerity and humble nature gained him great popularity with all classes of colonists. He was strongly opposed to the transportation system—the brutalities of this system were offensive to his democratic and humanitarian ideals. In 1844 Richard Dry was nominated by the Lieutenant-Governor, Eardley-Wilmot, as a non-official member of the Legislative Council. Dry commenced his political career during a period of economic depression and growing conflict between the Legislative Council on the one hand and the Imperial Government and its representative, the Lieutenant-Governor, on the other. He very soon became a leading figure in the turbulent colonial politics of the day.

*Dry and the Anti-Transportation Movement*

The number of convicts arriving in the Colony was increasing and largely due to the burden of maintaining the prison establishments and convicts, the Tasmanian administration was almost reduced to bankruptcy. Sir John Eardley Eardley-Wilmot was instructed by the British Colonial Office to raise more money to cover prison expenses but without drawing on the military chest or using Government credit. This led to the bursting of a long gathering political storm over transportation and colonial control from Britain in the mid 1840s.

Eardley-Wilmot had a bill introduced into the Legislative Council in 1845 which provided for raising the level of 'ad-valorem' customs duties on tea, sugar and other imported necessities from 5 to 15 per cent. Immediately, there was strong opposition to the bill, both inside and outside Parliament. The unofficial members, including Dry and T. G. Gregson, succeeded in having the matter referred to the Colonial Office. However the reply, received some months later, upheld the Lieutenant-Governor's action. Therefore Eardley-Wilmot had little option but to again attempt to have the bill passed by the Legislative Council. Gregson led the opposition to the measure and was strongly supported by Dry. These two men and four other non-official members of the Council (Charles Swanston, Michael Fenton, William Kermode and John Kerr) walked out of the Council Chamber when the Bill was resubmitted, thus leaving the Council without a quorum to pass the measure.

These six non-official members were then dismissed from the Council by Eardley-Wilmot, but they had earned the admiration and support of the great majority of the free colonists who bestowed the title 'Patriotic Six' upon them for their stand. From the beginning of the controversy, public feeling in the Colony had run high and the old British maxim of 'no taxation without representation' became a popular cry. In Hobart Town, the Patriotic Six were fêted as heroes. Dry, on his return to Launceston, was given a tumultuous welcome and escorted into the town by a large crowd of enthusiastic supporters. The popular demonstration was of a size not before seen in Launceston and feelings ran high. Indeed the quarrel between the colonists and the colonial government had inflamed public opinion to such a degree that bloodshed might easily have resulted, especially if the crowd had been moved to violence by inflammatory speech. However, Dry greatly contributed to an eventual peaceful solution and fortunately had the good sense to address the Launceston crowd, with whom he was immensely popular, calmly and with moderation.

Soon after their dismissal, the Patriotic Six sent a letter to the Colonial Secretary, Lord Stanley, explaining their reason for walking out of the Council. For a variety of reasons, Eardley-Wilmot was recalled and his successor, Sir William Denison, arrived to become Lieutenant-Governor in January 1847. Denison was under instructions to reinstate Gregson, Dry and colleagues and he was successful

in persuading them to accept re-appointment to the Legislative Council. They had won the first round of their battle, as never again did the British authorities attempt to burden the Colony with the full expense of the upkeep of the convict prisoners. They had also hammered home the first nail in the coffin of the transportation system.

During 1848, the number of convicts transported to Tasmania was stepped up and this helped lead to the formation of the *Australasian* (anti transportation) League which was dedicated to achieving the complete cessation of transportation. Dry became one of the most active members of this organisation while opposition to transportation became increasingly vocal in Tasmania. An agreement, aimed at ending transportation, was drawn up and signed by the leading colonists. Although Dry was not an original signatory, he soon added his name to the document, and, in fact, took a leading role in the movement.

*First Speaker of the Enlarged Legislative Council:* In 1851 British legislation giving the Colony an enlarged and two-thirds elected Legislative Council became effective in Tasmania. This was the first step towards representative self-government. Dry was elected with the support of the anti-transportationists to the new Legislative Council and represented the Launceston electorate. Dry's opponent in the election was the pro-transportationist Adye Douglas, whom Dry defeated easily. On 30 December 1851 the new Legislative Council was summoned to meet for the first time and Richard Dry was unanimously chosen as Speaker, a position he held until 1855.

Dry was not pleased with Denison who had antagonised the colonists by his protracted support for the transportation system and his delaying tactics against moves towards self-government. At an Agricultural Society dinner Dry showed his displeasure by refusing to drink a toast to the Lieutenant-Governor. However, the opponents to transportation were finally successful when the cessation of transportation to Van Diemen's Land was announced by the British Government in May 1853, an event which led to enthusiastic rejoicing throughout the colony. A widespread desire to change the name of Van Diemen's Land to Tasmania also resulted. The stigma of having been a penal settlement was associated with the name 'Van Diemen's Land' while the name 'Tasmania' already had some currency. Following representations made by Governor Denison to the British Government, an Order-in-Council was passed which changed the name of the Colony to Tasmania from 1 January 1856.

### *Marriage*

In April 1853 Richard Dry married Clara Meredith, daughter of George Meredith of Cambria on the east coast. The couple were married at the All Saints Church in the parish of Swansea. Dry took his wife to live at Quamby where he led the life of an English country gentleman. He entertained lavishly, enjoyed hunting and worked hard in the interests of the Colony. Despite his great wealth he remained tremendously popular with the masses and was liked and respected by his tenants and employees.

### *A Constitution, Ill Health*

From 1850 Dry became increasingly involved in drafting a constitution for the Colony in anticipation of the granting of responsible self-government. He was a member of a Select Committee appointed to draw up the Constitution which was completed by British legal advisers and received Royal Assent in 1855. However, when the fully elected Parliament was first convened on 2 December 1856 Richard Dry was absent. In 1854 Dry had had a bad fall from a horse while riding on his property and this seriously impaired his health. Towards the

end of July 1854 Dry resigned his position as Speaker of the Legislative Council and announced his retirement from public life. In the Council T. D. Chapman moved that an address, in recognition of Dry's outstanding service be sent to him. The motion was carried by acclamation. The address read:

'We, the members of the Legislative Council of Tasmania, in Council assembled, cannot allow the occasion of your retirement from the Speakership, and from your seat in the House, to pass without expressing to you our deep sense of the valuable services which you have rendered in both capacities, and our sincere regret that illness should have compelled you to withdraw for a time from public office.

We are justified in saying that our regret is shared by the whole body of colonists in Tasmania who have regarded with natural pride the able and dignified manner in which you, a native of the Colony, have discharged the onerous duties of Speaker in its first elected Legislature. As a lasting memorial of one for whom we entertain so much esteem and respect we request that you will present us with your portrait, to be placed in the Library of the Council.'

His fellow members of the Legislative Council were not the only ones sorry to hear of Dry's retirement from public life. The people of Launceston met to express their respect for Dry and an address of sympathy to him was adopted. A committee was also appointed to collect a subscription to procure a portrait of Dry, which was to be hung in some public place.

Dry duly presented his portrait, which showed him in his speaker's role, for hanging in Parliament. The portrait was painted by the artist Conway Hart. However, the portrait which the Launceston committee had been commissioned to procure was not painted until 1871, some two years after Dry's death. This latter portrait was based on a photograph of Dry.

### *Overseas Trip and Knighthood*

In 1855, Dry prepared for an extended overseas trip—grave fears were held for his life due to his failing health. He sold his extensive library and sub-divided some 2 430 hectares of his Quamby estate and auctioned it in blocks ranging from 16 to 120 hectares. He also sold much of his furniture. In 1856 the Drys left for their visit to England and the Continent. In the Colony's new parliament his leadership and steadiness of character were sadly missed.

While in England Richard Dry was knighted by Queen Victoria (in May 1858). He was the first colonial born Tasmanian to receive this honour. Despite his absence overseas the northern colonists remembered him and in 1859 his supporters nominated Sir Richard Dry, in his absence, for the House of Assembly seat of Devon. However, he did not stand. In 1860 Sir Richard and Lady Dry returned to Tasmania on board the *Royal Shepherd* and the couple were given a hearty welcome by Dry's faithful Launceston supporters.

### *Re-election to the Legislative Council*

Towards the end of 1862 the Legislative Council seat of Tamar became vacant and Dry's supporters urged him to accept nomination. The election was to be held on 23 December and Sir Richard's formal acceptance and nomination was published on 19 December 1862. He was elected—a tribute to his popularity and the high regard in which he was held by his fellow colonists.

Sir Richard Dry, while overseas, had become interested in the railway developments in Great Britain and Europe. On his return to the Colony he became a vigorous supporter of the Launceston-Deloraine scheme and of a north-south line.



He accepted offices as chairman of the Launceston and Deloraine Railway Association and as president of the Northern Tasmanian Railway League. With Dry's election to the Legislative Council the railway movement gained an influential and eloquent supporter within Parliament. His personal efforts did much to overcome the opposition of the Whyte ministry to the Launceston-Deloraine scheme and helped to clear the way for enabling legislation.

### *Dry's Premiership*

On 18 September 1866, Parliament was dissolved, on the advice of the Government, 13 months before it was due to expire. This followed rejection of a bill proposed by the Colonial Treasurer in the Whyte Government, Charles Meredith, to levy a tax of 5½ per cent on property and on all incomes over \$160 a year. The Government of James Whyte had been faced with serious financial difficulties with insufficient Government revenue to cover expenditure requirements. Meredith's Bill was designed to overcome the Government's financial problems but there was considerable opposition to the very radical proposals (for the time) to introduce property and income taxation. Following the elections, Whyte and his ministers retained their seats but there were nine new members in the new Parliament, most of whom were men of property and this increased the strength of the opposition to the new tax proposals. As a result, when the new Parliament opened on 20 November 1866 and the Whyte Ministry adhered to their tax proposals, an Opposition motion condemning this stand was passed by a large majority. Whyte tendered his resignation as Premier on 24 November 1866 and on the same day, Sir Richard Dry formed a new ministry, becoming the Premier and Colonial Secretary. His other ministers were Thomas Daniel Chapman, Colonial Treasurer and William Lambert Dobson, Attorney-General. The ministry of three was the smallest since the introduction of responsible government in 1856. However, all were men of proven ability and devotion to public office. Sir Richard Dry was a popular leader with widespread public support, Chapman was an experienced politician considered ably qualified for the position of Treasurer and Dobson was a young barrister of promise. The preceding ministry of James Whyte had only four members but the other five ministries that had followed the commencement of responsible government all comprised from six to eight ministers.

Following normal British practice at the time, the newly nominated ministers were requested to contest elections to confirm public support for them in their new positions. These elections were held in December and Sir Richard Dry was returned unopposed. Dobson was also returned but Chapman was defeated in his Hobart electorate by John Lord. Money had been freely spent on Lord's behalf and accusations were made that bribes to vote for him had been paid. However, following a meeting in Launceston, John Crookes, who held a seat in the Tamar electorate, consented to resign in order to allow Chapman to contest the seat. Chapman subsequently won the seat unopposed.

The small ministry was part of an attempt to effect savings in Government expenditure. Considerable savings were made, largely as a result of the personal example set by the Ministry—the three men did not spare themselves in their efforts to restore the Colony's finances to a sound base—in February 1867 an Act was passed to reduce the salaries of ministers and of the Solicitor-General. Dry had come to office during a period of economic crisis when the Colony was in the sixth year of a serious economic slump. Business activity was low, prices for most agricultural products were low, whaling and the timber industry had slumped dramatically while the New Zealand goldfields had attracted men, leaving a shortage of labour. The Dry Cabinet did not materially alter the existing

financial arrangements in regard to Government revenue (the main contributing items being customs duties and the sale of Crown lands) but were nevertheless able to make certain reductions in Government expenditure. The main measure in this regard was to transfer to the municipalities responsibility for the cost of maintenance of the police, who were already under the municipalities' control.

During his term as Premier, Sir Richard Dry lost some of his popularity. He opposed the proposed main line railway scheme between Hobart and Launceston on the grounds that the Colony could ill afford such a costly venture. This resulted in much criticism, particularly from southern interests who felt that he was giving undue favour to the northern part of the Colony—especially as he continued to actively support the Launceston-Deloraine scheme. The hard work of political office and growing Parliamentary divisions over the railway question began to tell on Sir Richard Dry. In the latter half of 1869 his health again began to fail him and it soon became obvious that he was a very sick man. However, he continued with his public duties.

### *Dry's Death*

On 1 August 1869 Sir Richard died suddenly at his Hobart home of *Holbrook*. He was survived by a widow but had no children.

The *Mercury*, in an obituary to Sir Richard on 4 August 1869, stated:

' . . . Sir Richard Dry was a man who had been largely charitable; who had given more indications than many of his contemporaries of a generous heart and a ready hand; in whose temperament sympathy with suffering was a string tenderly attuned. He was benevolent without ostentation—a man who did good by stealth, as well as with the publicity that served as an example. He had founded and endowed religious institutions; had given his help to deserving charities. But many a man, he could remember, had been relieved and aided by his generosity—of whom the world knew nothing. Of these acts, prompted by a kindly heart, there is no record, but many a living recollection. Nor was Dry the man to catalogue and chronicle his acts of kindness . . . '

On the morning that the funeral procession left Hobart for the north all places of business were closed in the city. The Governor, Charles Du Cane, led the procession of mourners until they reached the city boundary. From there the funeral coaches proceeded slowly north—it took four days to reach Launceston and at every township along the way the townspeople turned out to pay their last respects. At Launceston the Governor and members of Parliament again joined the cortège on its way to Hagley where Sir Richard was buried at St Mary's Church. A chancel, built over his grave, was added to the church in 1871 as a memorial to one of Tasmania's most outstanding and popular leaders.

Lady Dry disposed of her husband's extensive Tasmanian estates and several years after Sir Richard's death she went to England to live. Lady Dry died in May 1904.

The historian, John Reynolds, wrote of Sir Richard Dry (in *Service*, April 1953):

' Dry was probably the most popular public man Tasmania has known. He was only thirty when he won his popularity for his fight for freedom and he never lost it despite the ups and downs of politics. He was singular among public men for his modest, genuine kindness and open-handed generosity. It was said of him that he never condescended because he never thought of anyone being inferior to himself! '

Following Dry's death in 1869, a special fund was raised by subscription to finance a prize at the University of Tasmania in recognition of his public service and to perpetuate his memory. The prize, to be offered annually to encourage learning, was called the 'Sir Richard Dry Exhibition'. Due to growth in value of the fund there are now two Sir Richard Dry Exhibitions which are offered annually for competition at the Higher School Certificate examinations in Tasmania for students proceeding to the University—one for proficiency in English Literature, French and German; the other for proficiency in Mathematics.

### **Developments During Dry's Premiership, 24-11-1866 to 4-8-1869**

#### *Colonial Finances*

When Sir Richard Dry's Ministry took office, an immediate attempt was made to bring under control the serious financial position faced by the Government. The Colony had been undergoing an economic slump for some years and in 1866 there had been a disastrous bank and finance company crash in Britain (made worse by panic following the first company crashes) which made the outlook for a speedy recovery in the Tasmanian economy bleak. It was said of Dry that he never accepted payment of public money for salary or expenses during his entire political career and one of the new Ministry's first moves was to pass legislation reducing the salaries of ministers and of the Solicitor-General. Although the savings resulting from this move were not substantial, the personal example set by the Government nevertheless had an important influence. Salaries of many Government officials were also reduced and some retrenchments made. A bill to reduce the Governor's annual salary from \$8 000 to \$6 000 was passed by both houses of Parliament in February 1867 as part of the Government's attempt to reduce its expenditure in the face of limited revenue. This was considered just and reasonable as ministerial and other salaries had already been reduced and the Colony still had heavy expenses thrown upon it by the Imperial Government in the large contribution required towards the upkeep expenses of convict gaols. However, in September of that year, a despatch disallowing the bill was received from the Colonial Office.

*Grants-in-Aid:* One early move to reduce Government expenditure was the withdrawal of 'Grants-in-Aid' to the municipalities. These grants had previously been regularly paid to municipal councils to cover their costs—in particular, the cost of upkeep of the police who were controlled by the municipalities at the time. The measure was vigorously opposed by the municipalities and aroused strong debate in Parliament. However, an appropriation bill incorporating the withdrawal of the grants-in-aid was passed by both houses of Parliament. The anticipated reduction in expenditure for the first six months of 1867 as a result was from \$14 428 (previously) to \$4 800. Funds for the upkeep of the police were now to come from general municipal rates with retrenchments where necessary. However, the legislation passed provided that in the case of 'poor' municipalities, where a rate of five cents in the dollar levied on the annual value of rateable property would not cover the cost of maintaining an adequate police force, the additional sum required was to be provided by the Government. In fact, the severe reductions provided for were not strictly adhered to and exceptions were made—the result was that grants-in-aid were in effect not discontinued but given in a new form at a reduced level. Grants given to municipalities under the new system for the first full year amounted to only \$12 000 compared to \$20 700 in 1866.

*Consolidation of Debentures:* Early in 1867 a bill was brought before Parliament providing for the consolidation of debentures which had been issued by the Government at various times in the past. The debentures involved committed

the Government to a total repayment of \$446 000 on redemption but were redeemable at different times and had different dates on which interest was payable. Most such debenture issues had been sold in London but were not quoted on the London Stock Exchange, mainly because the variety of small issues with different interest payment dates prevented them from becoming popular. This situation led to some sales of Tasmanian debentures being made at discounts of up to 10 per cent on their capital value while some issues of other colonies attracted modest premiums. The bill was passed and the subsequent *Debentures Consolidation Act* provided that a uniform stock be issued (redeemable in 35 years and attracting 6 per cent per annum interest payable half-yearly) which could be sold to redeem old debenture issues falling due or issued in exchange for other Tasmanian Government debentures held. This improved the popularity and price of Tasmanian debentures later in the year when they were given quotation on the London Stock Exchange and helped to account for the success of debentures issued by the Colony in later years.

In January 1867 the Colonial Treasurer, Mr Chapman, made a financial statement in which he revealed that for the four years from 1863 to 1866 the accumulated deficit in the general revenue was \$206 470. The budget estimates he put forward for 1867 showed anticipation of a nearly balanced budget with revenue at \$378 734 and expenditure of \$381 868. The reduction in the proposed expenditure compared to that of the previous year amounted to \$46 088. The savings were expected to result from the reduction in salaries for ministers and certain officials, retrenchment of Government employees and reduced grants to the municipalities.

In August 1867, the Treasurer read a financial statement to the House of Assembly which gave grounds for hope that the present ministry was pulling the Colony out of its financial quagmire. Mr Chapman said that Government revenue for 1867 would cover expenditure—the first time this had been achieved for many years—and that he was again budgeting for a small surplus for 1868. The press were pleased with Chapman's management of the Colony's finances—the *Launceston Examiner* in particular, had been scathing in its criticism of the previous administration's deficit budgets. However, by mid-1868, the financial position was again causing some concern. Tasmania was still in the grip of economic depression—all industries were affected and there was a general stagnation of trade. In August, Mr Chapman announced that a recent estimate for 1869 gave a budget deficit of revenue \$30 000 below expenditure. He proposed levying 'ad-valorem' stamp duties on transfers and mortgages of land, stock, ships and foreign bills of exchange. This measure was strongly opposed in the press and by those to be affected but was nevertheless introduced. Chapman also announced an increase in customs duties to apply immediately which also met with widespread criticism. However, a balanced budget for 1868 was successfully achieved.

#### *Intercolonial Customs Union*

Early in 1867, the *Intercolonial Free Trade Bill* was passed by both houses of Parliament and sent to the British Government for its consent. Protective policies had previously been established in the Australian colonies in order to protect each of them individually from import competition. Customs duties on imports of products which were also produced within a particular colony were often very high while varying greatly from one colony to another. In particular, Victoria's protective policies had operated for some time and inhibited exports of Tasmanian produce to Victoria. The *Intercolonial Free Trade Bill* provided for the import to Tasmania, free of import duty or wharfage, of any goods named in a schedule that were the product of Victoria, New South Wales, South Australia, Queensland or



New Zealand, provided that the colony of origin agreed to reciprocal arrangements for Tasmanian goods. The schedule of goods included most agricultural products and livestock, wine, timber, coal, lime, building stone, bricks, etc. Agreements entered into with other colonies were not to exceed 10 years duration and could be declared null and void if the neighbouring colony failed to honour the terms of the agreement. At the second reading of the bill, the Treasurer, Mr Chapman, stated that between 1863 and 1866 the value of exports from Tasmania had fallen by about \$220 000 and that this was largely due to the restrictive Victorian custom's duties levied on goods imported from Tasmania. The bill was designed to promote free trade between the Australian and New Zealand colonies reversing the recent marked fall in intercolonial trade. Mr Chapman said that it was considered likely that if Tasmania gave the lead and passed the bill, then other colonies would reciprocate.

In March 1867, a despatch from the Colonial Secretary was received disallowing the *Intercolonial Free Trade Bill*. The British Government feared that passage of such a bill might set a precedent for colonies to make preferential trading arrangements with their neighbours, thus embarrassing the Imperial Government in its trade relations with other countries. The rejection caused considerable dissatisfaction in Tasmania. However, the problem posed by intercolonial customs had received widespread publicity and in 1869 there was increased agitation for the formation of an 'Intercolonial Customs Union'. E. C. Nowell, Tasmanian Government Statistician, wrote in the *Statistics of the Colony of Tasmania for 1867*:

'I cannot quit this part of the subject (trade and commerce) without some reference to the Intercolonial Free Trade Bill, which the Secretary of State declined to entertain. The failure of that bill to become law, must greatly retard the development of our commerce with the sister colonies; but, it has nevertheless been productive of a large amount of good. It has called the attention of the Colonies interested to the advantages of free inter-change of products; and the generally favourable reception which it has met with, affords ground for hope that, before long, the subject of free trade as a general principle will be better understood.'

Early in 1869, an Intercolonial Trade Conference was held in Sydney which was attended by representatives of the Chambers of Commerce of the various colonies. Resolutions were passed affirming the desirability of forming an Intercolonial Customs Union. It was later decided to hold another Customs Union Conference in October to be attended by representatives appointed by each of the colonial governments. The notion of a Customs Union between the colonies was now finding widespread and increasing favour.

#### *Waste Lands and Immigration Acts*

At the end of 1866, immigration to Tasmania was virtually at a standstill and Sir Richard Dry pressed for the sale of Crown lands for settlement in the 'new country' to the west of Deloraine. Dry considered that new land was needed by the sons of Tasmanian farmers and to encourage badly needed immigrants to come to and settle in the Colony. In October 1867 the *Waste Lands Act No. 4*, an *Act to Amend the Immigration Act 1855* and an Act to allow reservation of land for settlers coming to Tasmania from India were passed.

The *Waste Lands Act (No. 4)* provided that areas of Crown Land could be reserved as 'agricultural areas' and divided into lots not exceeding 40 hectares. Once access roads were constructed, such land was to be offered for lease for up to twenty years with lessees having the option to purchase land leased for \$2

per hectare at any time during the term of the lease. No person was to hold more than one lot on leasehold but once a lot was purchased, a person gained the right to select another lot. Any lot leased under provisions of the Act was subject to forfeiture to the Crown unless the selector, his tenant or his servant commenced to reside on the lot within one year of its selection and continued to reside thereon until the full purchase price was paid.

The amendments to the *Immigration Act* provided for an Immigration Commission to be set up and for the appointment of an Immigration Agent to encourage people to emigrate from Britain to Tasmania, to furnish information relating to Tasmania and to select emigrants. All immigrants to Tasmania arriving direct from Europe who had paid their own passages were to be given Land Order Warrants to the value of \$36 for each person of the age of 15 years and upwards, and \$18 for each child between the ages of twelve months and 15 years. Such sums were to be allowed as purchase money for any lands bought by auction or selected for purchase either from the Crown or by private contract under existing *Waste Lands Acts*. The Act also provided that any person arriving in the Colony from Europe or India with the intention of settling, and who had paid their own passage but not previously received a Land Order Warrant, would be entitled to select 12 hectares of land from Crown Waste Lands if single, and, if married, an additional eight hectares in respect of his wife and four hectares in respect of each child, at no cost. Any land so selected was to become the property of the selector after he had resided in the Colony for five years.

Another Act passed at the same time made liberal provision for Europeans who might come from India, the aim being to attract military officers retiring on their pensions as settlers. As a result of this Act an area of over 20 000 hectares was specially set apart for this class of settler near Castra in the County of Devon, where they could select land under the provisions of the *Waste Lands Acts*. It was further provided that when such settlers had complied with the conditions of the Act as to settlement, they were entitled to a remission of \$4.94 per hectare (£1 per acre) in the purchase price of land selected under provisions of the Act. A pamphlet publicising this scheme was produced and although the scheme was successful in attracting a number of army officers from India to Tasmania, few of them actually settled near Castra on the land specially set aside for them.

The *Waste Lands Act No. 5*, passed in September 1868, contained provision that one half of all purchase money received by the Crown for land sold under provisions of the various *Waste Lands Acts* was to be reserved for the purpose of building roads in the vicinity of the land sold. Towards the end of the year, the Commissioner of Crown Lands, acting on directions from the Government, published a statement setting out the methods and terms under which 'the Waste Lands of the Crown of Tasmania are disposed of by private selection as provided for by the different Waste Lands Acts of the Colony'. The intention was to set out clearly the provisions of the five *Waste Lands Acts* in order to help encourage immigrants to Tasmania. However, although 6 521 immigrants arrived in Tasmania in 1869, 7 159 persons left the Colony in the same year and in 1870 there was only a small excess of arrivals over departures of 94 persons.

#### *Royal Visit to Tasmania*

In January 1868 Tasmania was honoured with a visit by His Royal Highness Prince Alfred, the Duke of Edinburgh, who was the first member of the royal family to visit the Colony. The relative isolation of the colonists from their homeland undoubtedly accounted for some of the considerable excitement engendered by this visit. In any case, the visit was preceded by elaborate preparations and accompanied by widespread enthusiasm throughout the Colony.

Advice of the intended visit was received by Governor Gore Browne and announced in July 1867. Preparations for it were underway soon afterwards. Cabinet met to decide on an itinerary and appointed a group of 'Reception Commissioners' to organise the functions and decorations considered necessary. The Public Works Department designed and built triumphal arches and stands, public meetings were held to consider the steps for Prince Alfred's reception and reception committees were formed in Hobart Town and Launceston.

Prince Alfred duly arrived in Hobart on board Her Majesty's steam frigate *Galatea* on Monday 6 January 1868. All the public buildings were gaily decorated and flags and streamers were flying from houses throughout the city. An enthusiastic crowd of about 3 000 cheered loudly as the ship berthed and a 21 gun salute was fired from the Albert battery. That evening the Prince and some of his party dined at Government House with the Governor and Government ministers. However, the public landing was not held until noon on the following day when the Prince was greeted by the Governor and Sir Richard Dry. He was then transported by carriage to a dais in the centre of town where a crowd estimated at from 15 to 20 thousand had turned out for the occasion. Then there followed an official speech of welcome, a reply and then a procession which was held along a route beneath specially prepared archways that had been erected in central Hobart streets. That night a procession of boats carrying brightly coloured torches was held on the Derwent, bonfires were lit and a fireworks display held. The following day, Prince Alfred laid the foundation stone for St David's Cathedral. On Thursday, he watched the 28th Hobart Regatta on the Derwent and attended a Governor's Ball at the Town Hall in the evening. Prince Alfred also visited New Norfolk, where hops were already becoming important, and the Salmon Ponds on the Plenty River.

The Duke left Hobart Town on Monday to travel to Launceston by road and spent that night at Mona Vale. At townships along the route, welcoming speeches were read and on these occasions the local inhabitants turned out in force. Prince Alfred arrived in Launceston on Tuesday evening to an enthusiastic reception of onlookers lining the way and men on horseback. The royal procession passed beneath a large triumphal arch 7.6 metres high which had been erected across Wellington Road. An artillery salute was fired and next came speeches followed by the singing of the National Anthem by a large children's choir. Launceston's streets were gaily decorated.

The following day, the Duke took part in a special ceremony in which he turned the first sod in the laying of the Launceston and Western Railway at the site of the proposed Launceston terminus at George Street. A large crowd was in attendance and many spectators watched from a large grandstand (with a capacity of 2 000 persons) especially erected for the occasion. Three loud cheers and an artillery salute were given when the Duke completed his task. That evening, he attended a Governor's Ball in the large hall of the Mechanics Institute.

On Thursday, Prince Alfred and party set off to return to Hobart by road and on the afternoon of Saturday 18 January departed for Sydney on board the *Galatea*. The Duke had been given a rousing welcome wherever he had travelled in the Colony and in a letter to the Government he later expressed his pleasure at the reception he had received and stated that he had been much impressed by, and interested in, Tasmania.

#### *State Aid to Religion*

The question of State aid for religion had long been discussed in the Colony and was the subject of considerable debate from mid 1867 until the passing of the *State Aid Commutation Act* in August 1868. State aid for the Church of

England, Presbyterian and Catholic denominations had begun in 1838 when an Act was passed providing that funds be set aside for the construction and maintenance of buildings for these faiths and for the payment of clerical stipends. The *State Aid Distribution Act* passed in 1862 provided for the disbursement of \$30 000 annually, plus additional amounts to be drawn from the Land Fund, to churches of specified denominations. The latter were the Church of England, the Church of Rome, the Church of Scotland, the Wesleyan Church, the Free Church of Scotland and the Jewish Church.

In 1867, an Anti-State Aid Association was formed in Hobart which publicized its arguments in pamphlets on the subject. In June 1867, a deputation opposed to state aid to religion called on Sir Richard Dry but he gave no undertaking to introduce legislation on the question. A bill to abolish state aid to religion was later introduced to Parliament by a Mr Douglas but was defeated. The *Launceston Examiner* of 4 June 1867 expressed the viewpoint that:

‘Members of all Protestant churches that now receive it (state aid) are opposed to the subsidy, because they see it is corrupting and corroding the very vitals of Christianity.’

The *Examiner* went on to say that the Colony could not afford to lavish the money now wasted on state aid, could not bear additional taxation for such a purpose and that the current distribution to specified denominations was wrong in principle as the great majority of inhabitants derived no benefit from those who received stipends while many maintained their own ministers without the assistance of state aid.

The question was finally settled following the passage of a bill introduced by the Attorney-General, Mr Dobson, which commuted the annual allowance reserved by the *State Aid Distribution Act* for religious worship by endowing the prescribed denominations with the sum of \$200 000 in debentures and providing for continued payment only to those ministers in receipt of stipends at the time the Act was passed. The Government considered that this measure would put an end to incessant appeals for ecclesiastical grants and sever the connection between church and State. However, the saving for the Government was prospective only as it was required to meet the \$12 000 annual interest payment on the debentures and to continue payment of stipends to scheduled clergymen until either they died or retired on pensions. The Congregationalists and some other religious groups which received no state aid voiced strong dissatisfaction at the large increase in the public debt due to the endowment of debentures. The *Launceston Examiner* criticised the measure as perpetuating rather than abolishing state aid and said that ‘the right rule is to let every man sustain his own religious convictions by his personal contributions’.

#### *Public Schools Act 1868*

In the first half of 1868 there was considerable discussion in the British press about moves for compulsory primary education. The matter also attracted attention in Tasmania and in August a bill ‘to make provision for the better education of the people of Tasmania’ was introduced into Parliament. The bill provided for the appointment of inspectors and for the compulsory attendance of children between 7 and 12 years of age (compliance by parents to be enforced under penalty of up to \$4).

The *Launceston Examiner* stated that there was a strong case for compulsory education as thousands of children were growing up in ‘gross ignorance’. At the committee stage in Parliament the bill was the subject of considerable debate with the provision for compulsory education arousing opposition. It was claimed

that there were no results available to indicate any advantages of having a compulsory system of education. Clauses originally in the bill providing for religious instruction in schools were deleted following debate.

*The Public Schools Act* was subsequently passed in September 1868 and, in addition to providing for compulsory education of children between 7 and 12, provided for a central Board of Education of seven members who were to be nominated for a term of two years. The Board was to be responsible for the general administration of Government schools and for the allocation of money granted for education by the Government. It was also to regulate the issue of 'certificates of competency'. The Act provided that a reserve of at least 2 hectares in every town was to be granted to the Board. Local school boards were also to be appointed in municipalities.

### *Scab in Sheep*

Although pastoralists were amongst the more prosperous colonists, they had problems of disease in sheep to contend with. Losses were sustained due to fluke, footrot and scab of which scab was by far the most serious. Scab is a highly infectious sheep disease which causes loss of condition accompanied by low wool yields and in many cases, the death of sheep infected. By 1868 this disease had become prevalent in the Colony and in September of that year the *Scab Prevention Act* (introduced to the House of Assembly by Mr Gibson) was passed. However, although the original bill had stringent enforcement provisions, opponents of the measure succeeded in so emasculating it that the Act subsequently passed had little effect in controlling the disease. This Act contained provisions disallowing the driving of scab infested flocks along public roads, putting them up for sale or allowing them to stray onto a neighbour's property but provided for only token penalties in cases of non-compliance.

James Whyte, Sir Richard Dry's predecessor, emerged as a crusader for legislation to make the eradication of scab effective. After Whyte's Government was defeated, he remained as a member of the Legislative Council and became particularly concerned that scab threatened the viability of the pastoral industry. At the time, the pastoral industry was the mainstay of the Colony's economy, especially as the whaling industry had recently suffered a serious decline and an economic depression was still in progress. In 1869 Whyte prepared a draft bill for the eradication of scab which he released to the press for publication in July of that year. He took this unusual course in order to give the bill publicity and to encourage public discussion of its provisions before Parliament met. Tasmania was the only colony where no effective legislation to control and eradicate scab in sheep existed but even so, Whyte's proposed bill met with considerable opposition on the part of sheep owners. The *Mercury* commented on 8 July 1869:

'It is a singular peculiarity attending all attempts to deal with the disease (scab) in sheep, not only in Tasmania but in the other colonies, that those whom it is sought to benefit are those who most oppose application of effectual measures.'

Pastoralists were wary of the provisions of the proposed bill—some claimed that, because of the scrubby and thickly timbered nature of much of the land, such legislation would be unworkable in Tasmania and that it would not be possible to prevent sheep straying. Many failed to realise the direct benefits of scab eradication to themselves in leading to more sheep for sale, improved wool yields and higher prices. A public meeting at Avoca of those interested in the proposed act condemned Whyte's bill although some speakers spoke in favour of similar but far less stringent provisions. Whyte's bill met considerable opposition when introduced but he eventually was successful in persuading Parliament to pass the *Scab Act* later in 1869 (after Dry's death) although in a seriously modified



form which rendered it far less effective than originally intended. As a result, an authority was set up to carry out the provisions of the legislation. Whyte felt so strongly about the matter and had such a high sense of public duty that he went so far as to resign his safe seat in the Legislative Council and to sacrifice the comforts of an attractive Hobart home to become the Chief Inspector for Scab Eradication. It was a tribute to Whyte's great energy, dedication and use of tact and diplomacy with the often suspicious sheep breeders that he was eventually able to report success in completely freeing sheep flocks of the disease in 1881.

#### *Succession of Charles Du Cane*

Governor Thomas Gore Browne's term of office in Tasmania ended with the close of 1868. During his stay, both the Governor and his wife had become popular with the people. Mrs Browne had been very active in benevolent societies and in all movements attempting to help the poor and needy. In this work she had been given the full support of her husband. Governor Gore Browne had administered the Government of the Colony for seven years and was considered to be the most popular governor since the first settlement of the Colony. He and his wife were accorded an affectionate farewell and departed from Hobart Town on 29 December.

Governor Browne's successor, Charles Du Cane, arrived in Tasmania with Mrs Du Cane at Launceston on 12 January 1869 to be met with an enthusiastic welcome by most of the townspeople who had turned out for the occasion. Sir Richard Dry was in Launceston to meet the new Governor and a half-day holiday was granted. The next day, the Governor and party left by road for Hobart Town where they arrived on Thursday evening after having spent a night at Mona Vale. The following afternoon the incoming Governor made his public entry to Hobart and was cheered by a crowd estimated at 10 000 persons. The procession into Hobart was followed by a swearing in ceremony in front of the Supreme Court House and by an address of welcome read by the Mayor. A half-day holiday was granted to mark the occasion. This was the first time a governor had been welcomed to Hobart with so much ceremony and public enthusiasm, which was at least partly due to the popularity of the previous governor. Governor Du Cane's assumption of office co-incided with the commencement of a brighter era for Tasmania—a long period of economic depression was moving gradually towards an end with easier times ahead and the new Governor found in office an able and energetic Ministry.

#### *Death of Last Male Full-Blood Tasmanian Aboriginal*

In 1803 when the first settlement was made at Risdon Cove estimates of the number of Aborigines in Tasmania ranged between two and five thousand. Lieutenant John Bowen, who led the settlement, was particularly anxious to maintain good relations with the native population. In this, Bowen was successful for some time and quite friendly relations were maintained. However, on 3 May 1804, while Bowen was away on an exploring tour, a considerable number of Aborigines approached the settlement—apparently with peaceful intent as women and children were in the party which was singing a corroboree song. Unfortunately, the military corps officer on duty did not share Bowen's humanity and, either from brutal intent or due to premature panic for one in his position, instead of showing the Aborigines kindness he ordered his troops to fire on them as soon as they came within range. Many were killed while the remainder fled to become the implacable foes of the invaders of their homeland. This event marked the beginning of a lopsided struggle with a series of brutal encounters between the two races. The Aborigines killed some settlers and many colonists away from the main settlement lived in constant fear of attack. Obviously, however, the primi-

tively armed Aborigines, who were often hunted like animals for sport by some of the basest types of European settlers, were completely outmatched by the latter's guns. The inevitable result was wholesale slaughter and the eventual extermination of a race. William Lanny, believed to be the last surviving male, full-blood, Tasmanian Aborigine, died in Hobart on 8 March 1869. He was 34 years old.

The *Mercury* gave the following report of Lanny's death:

'The last of the (male) aboriginal natives of Tasmania, William Lanny, better known as "King Billy" died yesterday afternoon at the Dog and Partridge Hotel, Barrack Street. Lanny has for some years past followed the pursuit of whaling, and he arrived about a fortnight ago in the barque *Runnymede* after a cruise of some months' duration and took up his abode at the Dog and Partridge. On Friday week past he complained of illness, and proceeded to Dr Smart's dispensary where he obtained some medicine. On Friday last, however, he was seized with choleric diarrhoea and took to his bed, when Dr Atherton was sent for and attended the unfortunate man until yesterday morning, when, seeing that his circumstances were not favourable to recovery, he ordered his removal to the hospital. Lanny got up at about 2 o'clock, and was dressing for the purpose of being conveyed there, when he expired. He has since his return led a very intemperate life, showing a great partiality for rum, and his constitution, thus enfeebled, was unable to conquer the disease.'

Lanny's funeral included the attendance of the Lord Mayor and a number of the crew of the *Runnymede*. Dr Crowther had removed the skull of the dead man with the intention of sending it to a museum while the body was awaiting burial at the hospital. When discovered, this led to widespread indignation and a feeling of outrage throughout the Colony.

#### *Submarine Telegraphic Cable*

A submarine telegraphic cable was first laid across Bass Strait (including an on-land section across King Island) in 1859 but was in service for only a very short time. This cable parted after chafing against rocks on the sea-bed on the Victorian side and, after twice being damaged and repaired, it was decided that the cable had become worthless due to defects in its manufacture.

In mid 1867 the Telegraph Construction and Maintenance Company entered into a contract with the Government for the laying of another telegraphic cable across Bass Strait. The Government guaranteed the Company a net return of 6 per cent per annum on the capital invested in the project, payable in whole or in part so long as the Company's receipts were less than 10 per cent of invested capital per annum. The Victorian Government was asked to participate in the scheme but declined as it was felt that the main advantages would accrue to Tasmania. However, Victoria promised to afford all reasonable facilities to assist in the venture. Final details of the contract were not ratified by the Tasmanian Government until May 1868. The cable was much more sturdily constructed than the first such cable and the sections for laying near land on either side of Bass Strait were given extra strength to resist any possible chafing action. The cable duly arrived in Melbourne from England on board the Company's steamship the *Investigator* in April 1869. It was 320 km long and weighed over 500 tonnes. Laying commenced almost immediately and was completed in two weeks. The cable ran from the township of Flinders to the west of Western Port in Victoria, in a straight line across Bass Strait to East Bay just to the east of Tamar Heads in Tasmania. The first messages were transmitted on 1 May to Victoria, New South Wales, South Australia and Queensland. Unlike the first attempt, this cable remained in continuous service for many years. Initial charges were high—nearly \$2, a considerable sum in those days, for a message to Melbourne of only 20 words—which limited the volume of messages transmitted.

*Launceston-Deloraine Railway Line*

The proposal to build a railway line linking Launceston and Deloraine had been under discussion for many years when the railway movement gained momentum during the previous administration of James Whyte. Sir Richard Dry had given his support to the pro-railway groups and had become identified with them. In 1865 an Act was passed which provided for the formation of a company to build and operate the 'Launceston and Western Railway', as the line became known. The Launceston and Western Railway Company was formed and began seeking subscriptions. However, these were not as readily forthcoming as had been anticipated and, in February 1867, legislation to amend the *Launceston and Western Railway Act* was passed which allowed a reduction from \$200 000 to \$100 000 in the capital subscriptions to the Company that were required before operations could commence. Heated debate occurred in the Legislative Council while the bill to amend the *Launceston and Western Railway Act* was under discussion. Mr Lowes pronounced the bill a huge fraud fit only to be spat upon and trampled underfoot. Having vented his indignation through speech he next proceeded to suit action to his words and spat upon a copy of the bill and trampled upon it! Additional capital of \$600 000 was to be raised by issuing railway bonds for which interest payments were to be covered by a special rate levied on properties lying in districts through which the line would pass if earnings were insufficient—the interest payments were guaranteed by the Government. The Company subsequently raised the required \$100 000 in direct subscriptions of share capital, directors were elected and detailed survey work for the line was commenced.

During his visit to the Colony in January 1868, the Duke of Edinburgh, Prince Alfred, took part in a special inauguration ceremony at Launceston where he turned the first sod to mark the commencement of construction of the line. Later, tenders were called for construction of the railway line which was to comprise a single track 68 kilometres long with a 1.60 metre gauge, passing through an area containing approximately one third of the Colony's population and some of the richest and most productive agricultural lands of the island. The tender submitted by Messrs Overand and Robb at \$401 342 was accepted and construction work commenced in July. The contract signed did not include the cost of rails, a bridge at Longford, rolling stock or station buildings. The sale of the railway debentures issued by the Company met with considerable success on the London market during 1868 and this gave heart and added incentive to promoters of a second line which had been proposed to link Hobart and Launceston.

In April 1869, the directors of the Launceston and Western Railway announced that an additional sum of \$220 000 would be required to complete the railway. This announcement led to heated debate in Parliament and Mr Doyne, who had carried out the initial survey and cost estimate for the line was accused of having furnished inadequate estimates. A Joint Committee of both Houses of Parliament was appointed to inquire into the proceedings of the Company. This Committee censured Doyne but recommended that Parliament allow a further \$200 000 to be borrowed by the Company. Legislation to this effect was later passed, the additional capital was raised and work proceeded. However, this episode further convinced Sir Richard Dry that the expense of a second railway connecting Hobart and Launceston would be excessive and led to him opposing such a scheme, even though he had previously been a keen supporter of a 'main-line' railway linking north with south. At the time of Dry's death, the construction of Tasmania's first railway was well under way. The Launceston and Western Railway was officially opened to traffic on 10 February 1871 by Governor Du Cane.

### *Hobart-Launceston Line*

As mentioned earlier, Sir Richard Dry became very interested in railway developments while visiting Great Britain and Europe between 1856 and 1860. On his return to Tasmania he became a vigorous supporter of a north-south line linking Hobart and Launceston as well as giving his support for the construction of a Launceston-Deloraine line. During the period preceding his term as Premier, Dry gave his wholehearted support and services to the pro-railway groups. However, during his premiership, Dry reached the conclusion that a north-south line would commit the small Colony to expenditure well above justifiable levels and impose an excessive burden on Government finances. His experience of the problems associated with acquiring finance for the Launceston and Western Railway scheme and of the costs for this scheme rising well above early estimates had radically altered his outlook.

In October 1867, a bill to provide for a survey for a railway line between Hobart and Launceston was rejected by Parliament. However, proponents of the scheme gained strength and became more vocal in 1868 and a Royal Commission was appointed to consider the feasibility and probable cost of a Main Line Railway linking Hobart and Launceston. By May 1868, the Hobart newspapers were actively pressing for action on the proposed line and an element of jealousy was creeping into the southern press—the view that Dry's Government was taking good care of the north (Dry had been a strong supporter of the Launceston and Western Railway) while neglecting southern interests was expressed. Argument about the proposed scheme increased from this time and developed into a bitter north-south controversy. Opponents of the scheme agreed with Sir Richard Dry's view that it would place an intolerable financial burden on the Colony and that the advantages seen by its proponents were often greatly exaggerated. While expressing gratification at the enthusiasm shown for the proposed line, the *Launceston Examiner* criticised the lack of consideration given to the cost of construction or to whether receipts from such a line would cover running costs and the interest payable on funds borrowed for its construction. On the other hand, an editorial in the *Hobart Town Mercury* concluded:

'There can be no doubt as to the ultimate advantages of the Main Line of Railroad, nor ought there be any as to the willingness of the public to pay the price for which the redemption of the country can be purchased.'

The *Mercury* suggested that all railway works should be undertaken directly by the Government rather than by a railway company and that the landholders in the districts through which the Launceston and Western Railway was to pass should be relieved of their legal obligations with respect to guaranteeing interest payments, that private subscriptions to the scheme should be refunded and that the scheme should be taken over by the Government.

In July 1868, the Mayor of Hobart, James Milne Wilson, chaired a large public meeting in the Town Hall which was called to discuss the proposal for a north-south line. The hall was crowded out so that many were unable to gain entry and the meeting was addressed by leading citizens who expounded at length on the virtues and benefits to be gained (in their view) from the proposed railway. It was argued that such a scheme would open up land along the route for agricultural production, allow economical transport of goods between Hobart and Launceston and produce profit above that required to meet running costs and interest payments. Some argued that the proposed scheme would help to lift Tasmania out of the economic doldrums and ensure her future growth and prosperity. The view that Launceston had so far received favoured treatment at the expense of Hobart was also expressed. At the meeting, a motion was passed

unanimously to present a petition to Parliament asking that a railway between Hobart and Launceston be constructed. Subsequently, a petition containing over 5 000 signatures was presented to both houses of Parliament. Soon afterwards, the Government announced that it would introduce legislation to authorise funds for a thorough survey of a north-south line. Meetings were also held in Launceston and towns located along the proposed route. The Main Line Railway proposal assumed considerable importance as a topic of public debate and members of Parliament began to be tagged as either 'railway men' or 'anti-railway men'. The *Tasmanian Railway and Progress Association* was formed with the aim of promoting the construction of public railways in Tasmania and of a north-south line in particular. It also made one of its aims the encouragement of agriculture and manufacturing in the Colony and set out to promote the return to both houses of Parliament of candidates favourable to a 'railway and progress' policy.

In August, the report of the Royal Commission inquiring into the proposed Main Line Railway was tabled in the House of Assembly. The Royal Commission had examined several possible routes and concluded that a line of high standard was feasible at an estimated cost of \$1 600 000. The report concluded that such a line would discharge its working expenses and interest payments on capital borrowed for its construction and still leave a modest surplus. This report was criticised by the *Launceston Examiner* as being 'full of unfounded assumptions and not worth the paper it was written on'. Soon after the Royal Commission report was tabled, a bill was passed to provide for a survey of the proposed line and by February 1869 a survey of three alternative routes for the railway was completed. The results were presented to Cabinet for consideration prior to the commencement of a more detailed engineering survey. Results of the subsequent detailed survey were published in July—the proposed line was to cross the Derwent River by causeway at Bridgewater and continue on passing through Brighton, Oatlands and Campbell Town. The cost of construction was estimated at \$1 700 000.

Later in the year, an offer was made by an English company to construct a Hobart-Launceston railway line with a 1.07 metre gauge if guaranteed interest of 5 per cent per annum on \$1 300 000 for 30 years by the Tasmanian Government but with the profits (above running expenses) from working the line to be deducted from the guarantee up to the amount covered by it. A bill accepting this offer was eventually passed, following lengthy and often heated debate, in October 1869 (after Dry's death). At the time, opponents of the scheme contended that the line would fail to show a profit and they were later to be proven correct.

### Gold

During the period of Dry's administration, there was quite a deal of interest in and exploration for gold but little was actually found. Reports of minor gold discoveries in the Fingal, George Town and Ringarooma areas were made from time to time and the Union Quartz Crushing Company was set up to mine gold near Fingal. This company discovered a 250 gram nugget of gold at their mine in January 1868 during a week in which they reported a total gold production of 850 grams. However, the company ceased operations later that year as yields of gold obtained had become too low to return a reasonable profit.

### Establishment of Trout

In 1864 salmon and brown trout ova had been successfully shipped to Hobart from London and were subsequently hatched at the Plenty Salmon Ponds in specially prepared hatching ponds (see pages 19-21 of the *1975 Year Book* for a full account; a special article, 'Species of Salmonidae in Tasmania', is included in the *1970 Year Book*). In 1886, Mr Ramsbottom, the Salmon Ponds super-





*The 'Heemskirk' and 'Zeehan' off Pt Hibbs, 1642 (unknown artist)*

*[Vern Reid]*



*Brisbane Street, Launceston (Artist: Fred Strange, 1858)*

*[Dept of Film Production]*

*(By Courtesy of the Queen Victoria Museum and Art Gallery, Launceston)*





*Members' Lounge, Tasmanian House of Assembly (Portrait is of Sir Richard Dry by Conway Hart)*



intendent, released salmon and trout fry into the River Plenty (a tributary of the Derwent) and in January 1867 he caught a 1¼ kilogram trout in the Plenty with a landing net. He preserved this specimen and placed it on display at the Salmon Ponds. Later, frequent sightings of trout in the Plenty were reported and in March Ramsbottom announced that he had seen a salmon estimated to be about 2 kg in weight. In mid-1868 adult trout kept at the Salmon Ponds spawned for the second time and the experiment to introduce salmon and trout into Tasmanian waters was now considered to have been a success. This was certainly true in relation to the brown trout which had increased to a considerable number following the two successive spawnings and had been caught on a number of occasions. However, the number of salmon returning from the sea for spawning on the second occasion appeared much smaller according to sightings made and none were actually caught. The salmon never became established but trout are still keenly sought by anglers in Tasmania.

### Statistical Summary

The following table gives selected statistics for the period 1855 to 1870. In particular, the statistics relating to trade and to Government revenue and expenditure highlight the severity of the economic slump experienced in Tasmania during the 1860's.

Statistical Summary: 1855 to 1870

Particulars	1855	1860	1865	1870
POPULATION (a)				
Males .. .. .	38 680	49 653	50 549	53 517
Females .. .. .	31 282	40 168	43 418	47 369
Persons .. .. .	69 962	89 821	93 967	100 886
AGRICULTURAL INDUSTRIES				
Area of principal crops—				
Cereals for grain—				
Barley .. .. . ha	4 887	2 524	1 832	3 082
Oats .. .. . ha	15 466	12 263	11 549	12 523
Wheat .. .. . ha	26 264	26 892	29 651	23 222
Potatoes .. .. . ha	3 609	3 084	4 156	3 975
Turnips .. .. . ha	2 203	492	638	547
Livestock (b)—				
Horses .. .. . no.	18 358	21 034	22 152	22 679
Cattle.. .. . no.	110 304	83 366	90 020	101 459
Sheep .. .. . '000	1 836	1 701	1 752	1 350
Pigs .. .. . no.	22 331	31 290	36 624	49 432
Wool exported.. .. '000 kg	2 657	2 058	2 233	1 881
GOVERNMENT REVENUE AND EXPENDITURE (c)				
(\$'000)				
General revenue—				
Customs .. .. .	324	237	239	274
Inland revenue .. .. .	n.a.	127	87	148
Other, excluding receipts from debenture and loan issues .. .. .	n.a.	57	126	183
Sub-total .. .. .	661	421	452	605
Receipts from issue of debentures and loans .. .. .	14	139	21	448
Total .. .. .	675	560	473	1 053

Statistical Summary: 1855 to 1870—*continued*

Particulars	1855	1860	1865	1870
GOVERNMENT REVENUE AND EXPENDITURE (c)— <i>continued</i> (\$'000)				
General expenditure—				
Excluding payments for redemption of debentures and loans .. .. .	875	490	432	670
Payments for redemption of debentures and loans .. .. .	..	82	6	329
Total .. .. .	875	572	438	999
Land Fund (d)—				
Receipts—				
From sale and rental of Crown land ..	166	166	143	93
Other .. .. .	<i>n.a.</i>	88	61	68
Total receipts .. .. .	<i>n.a.</i>	254	203	160
Disbursements .. .. .	<i>n.a.</i>	234	269	190
VALUE OF TRADE (\$'000)				
Imports .. .. .	3 120	2 136	1 524	1 586
Exports—				
Grain, hay, flour and bran .. ..	844	429	247	173
Timber .. .. .	197	147	113	75
Wool .. .. .	758	741	763	493
Other .. .. .	1 058	607	639	557
Total .. .. .	2 858	1 924	1 762	1 298

(a) At 31 December.

(b) At 31 December 1855 to 1865 and at 31 March 1871.

(c) Receipts and payments actually made during calendar years.

(d) Details not included under general revenue and expenditure. The Land Fund was used to finance survey work, road building, other public works, etc.

## CHRONOLOGY

## Preface

The following chronology was compiled in two sections, the period 1642 to 1929 from a document specially prepared by officers of the State Archives, and the period beginning 1930 from a search of contemporary newspapers by Bureau officers.

In the record of more recent years, it was found impossible to describe purely Tasmanian events in isolation since certain national events necessarily form part of the history of a state within a federal system; particularly is this true with regard to some Australian Government decisions, the state of the economy and industrial arbitration. On the other hand, there is the difficulty of deciding which events of a purely local character are sufficiently important to warrant inclusion. Some items have been introduced not because they are important but because they have a strong local flavour. This difficulty of selection is partly avoided by giving the record of recent years in more detail but inevitably such a policy results in matters of major and minor importance being mingled without distinction. It follows also that the second part of the chronology is limited largely to what the newspapers of the day considered important and that some events of greater significance may have escaped notice.

To round off the picture of any given year, there is a constant temptation to introduce events of world importance; as far as possible, this has been avoided except where such events had considerable local impact. In no way should the record which follows be interpreted as an 'official' chronology of the State; in actual fact, the record derives from two levels of subjective evaluation, firstly, the selection of items of importance by contemporary journalists, and secondly, the further selection of items from this narrowed field by the compilers of the chronology.

### Chronology of Events from First Discovery of Tasmania

- 1642 Abel Janszoon Tasman, commanding *Heemskirk* and *Zeehan*, sighted west coast and named his discovery 'Anthony Van Diemenslandt'. Landings on Forestier Peninsula and near Blackman Bay on east coast.
- 1772 Landing of a party from Du Fresne's expedition at Marion Bay and affray with the Aborigines.
- 1773 Tobias Furneaux, in the *Adventure*, became separated from James Cook in *Resolution* and landed a party at Adventure Bay.
- 1777 James Cook anchored *Resolution* in Adventure Bay on third expedition.
- 1788 William Bligh anchored *Bounty* in Adventure Bay on first breadfruit expedition.
- 1789 John Henry Cox sailed *Mercury* from Cox Bight to Maria Island.
- 1792 William Bligh, on second breadfruit voyage, anchored *Providence* in Adventure Bay. Bruny D'Entrecasteaux, commanding *La Recherche* and *L'Esperance*, discovered D'Entrecasteaux Channel and charted south-east coast.
- 1793 D'Entrecasteaux returned for further exploration of south-east coast. John Hayes, commanding *Duke of Clarence* expedition, explored Derwent River.
- 1798 Matthew Flinders and George Bass circumnavigated Tasmania.
- 1802 Nicholas Baudin, commanding *Geographe* and *Naturaliste*, explored south-east coast.
- 1803 John Bowen's party of 49 made first settlement at Risdon Cove.
- 1804 David Collins' settlement party landed at Sullivans Cove (Hobart). Aborigines killed in an affray at Risdon. Risdon settlement closed down. William Paterson's settlement party landed at Port Dalrymple (Tamar Estuary).
- 1805 Collins forced by famine to cut rations by one-third.
- 1806 Settlers moved from York Town to Launceston area (Tamar Estuary).
- 1807 Thomas Laycock's party crossed island overland from Port Dalrymple to Hobart. First Norfolk Island settlers shipped to Hobart in *Lady Nelson*.
- 1809 Governor William Bligh aboard *Porpoise* anchored in Derwent after N.S.W. mutiny and embarrassed Collins with problem of jurisdiction.
- 1810 Lieutenant-Governor Collins' death. Issue of newspaper *Derwent Star*.
- 1811 Governor Lachlan Macquarie's first visit to Tasmania.
- 1812 Lieutenant-Governor Thomas Davey arrived. Northern settlement at Port Dalrymple made subordinate to Hobart. *Indefatigable* brought first shipload of convicts direct from England.
- 1815 Hobart and Port Dalrymple declared free ports for import of goods. Davey proclaimed martial law against bushrangers. James Kelly circumnavigated island in a whaleboat.

- 1816 First issue of *Hobart Town Gazette*.
- 1817 Succession of William Sorell as Lieutenant-Governor.
- 1818 Death of Michael Howe, notorious bushranger.
- 1820 Visit by John Thomas Bigge to conduct his enquiry into colonial administration.
- 1821 Second tour by Governor Macquarie.
- 1822 Penal settlement established at Macquarie Harbour.
- 1823 Passage of British Act 'for the better administration of justice in N.S.W. and Van Diemen's Land'.
- 1824 Inauguration of Supreme Court. Arrival of Lieutenant-Governor George Arthur.
- 1825 First Launceston newspaper, the *Tasmanian and Port Dalrymple Advertiser*, established. Tasmania constituted a colony independent of N.S.W. Establishment of appointed Executive and Legislative Councils. Departure of Governor Darling from Tasmania left Arthur with the authority of Governor (but not the title).
- 1826 Van Diemen's Land Co. sent first party to select land and establish farming operations. Appointment of Commissioners of Survey and Valuation.
- 1827 Colonial Act passed for the regulation of the colonial press—disallowed. Lieutenant-Governor received a petition for trial by jury and some representation in Legislative Council.
- 1828 Passage of British Act 9 Geo. IV, cap. 83 which increased membership of Legislative Council. Martial law proclaimed against Aborigines.
- 1829 First settlement at Emu Bay (Burnie).
- 1830 George Augustus Robinson began his mission to conciliate the Aborigines. First use of juries in civil cases. Beginning of the 'Black Line', the military campaign to round up the Aborigines. First volume of *Quintus Servinton*, first novel to be published in Australia. Port Arthur established as a penal settlement.
- 1831 Approval of British Government's new land regulations discontinuing free grants of land, and replacing them with land sales.
- 1832 First shipment of Aborigines to Straits Islands. Establishment of the Caveat Board to settle land disputes and to confirm titles. Maria Island closed down as a penal settlement.
- 1833 Macquarie Harbour penal settlement closed down.
- 1834 Henty brothers from Launceston became first settlers in Victoria occupying land in Portland Bay area.
- 1835 John Batman sailed from Launceston to Port Phillip as agent for the Port Phillip Association. Tasmania divided into counties and parishes. Opening of Ross Bridge. Population estimated as 40 172 persons.
- 1837 Arrival of Sir John Franklin and assumption of office as Lieutenant-Governor.
- 1838 Sessions of Legislative Council opened to the public.
- 1840 Cessation of transportation to N.S.W. and consequent increase in numbers transported to Tasmania. Population estimated as 45 999 persons.
- 1841 Assignment System of convict discipline replaced by the Probation System. Rossbank Observatory for magnetic and meteorological observations established.

- 1842 Tasmania created a separate Anglican diocese. Hobart made a city. Peak year for convict arrivals (5 329).
- 1843 Recall of Sir John Franklin and succession of Sir John Eardley-Wilmot.
- 1844 Transfer of Norfolk Island penal settlement from N.S.W. to Tasmanian control.
- 1845 Resignation of the 'Patriotic Six' members of the Legislative Council, opposing the heavy expenditure of colonial revenue for Imperial police charges.
- 1846 Recall of Eardley-Wilmot. Foundation of the Launceston Church Grammar and The Hutchins Schools.
- 1847 Succession of Sir William Denison. The Lieutenant-Governor re-appointed the 'Patriotic Six', dispensing with those who had replaced them as Legislative Councillors.
- 1848 Tasmania now the only place of transportation in the British Empire.
- 1850 Foundation of the Anti-Transportation League. Population estimated as 68 870 persons.
- 1851 British Act 'for the better governing of the Australian colonies' reached Tasmania; provided for limited representative government. First elections for 16 non-appointed members of the Legislative Council.
- 1852 First payable gold found near Fingal. Elections held for first municipal councils in Hobart and Launceston.
- 1853 Arrival of last convicts to be transported.
- 1854 Bad floods throughout Colony. Passage of bill establishing responsible government.
- 1855 Succession of Sir Henry Fox Young; title now Governor. British Government approved Constitution Bill.
- 1856 Name of Van Diemen's Land changed to Tasmania. Opening of new bicameral Parliament with W. T. N. Champ leading first government in the House of Assembly. Re-organisation of Police Department.
- 1858 Council of Education set up. *Rural Municipalities Act* passed.
- 1859 Charles Gould appointed to make geological survey of western Tasmania. Telegraph established as link with Victoria.
- 1860 Population estimated as 89 821 persons.
- 1861 Succession of Colonel Thomas Gore Browne. Telegraph cable to Victoria failed.
- 1862 Promotion of scheme for a railway between Launceston and Deloraine.
- 1864 Arrival of first successfully transported salmon and trout ova.
- 1868 Visit by Alfred, Duke of Edinburgh. Bill passed making primary education compulsory.
- 1869 Succession of Charles Du Cane. Death of William Lanny, thought to be the last male full-blood Aboriginal. Death of Sir Richard Dry. New cable laid to Victoria.
- 1870 Withdrawal of remaining Imperial troops.
- 1871 Opening of Launceston-Deloraine railway. Tin discovered at Mt Bischoff.
- 1872 Contract concluded for building Main Line Railway.
- 1873 Main Line Railway construction began. Start of economic recovery.
- 1874 Riots in Launceston in protest at rates levied for Launceston-Deloraine railway.



- 1875 Succession of Sir Frederick Weld.
- 1876 Race meetings established at Elwick. Gold nugget worth \$12 200 found at Nine Mile Spring. Death of Trugannini, thought to be last female full-blood Aboriginal. Main Line Railway opened for traffic.
- 1877 Port Arthur closed down as a penal settlement.
- 1878 Increased activity in exploration of West Coast.
- 1879 Settlement of constitutional issue known as the 'Hunt Case'. Rich lode of tin discovered at Mt Heemskirk.
- 1880 First telephone in Tasmania with line from Hobart to Mount Nelson Signal Station.
- 1881 Purchase of three diamond drills by the Government for hire to private prospectors. Succession of Sir George Strahan.
- 1882 Increased prospecting on the West Coast.
- 1883 Discovery of the 'Iron Blow' at Mt Lyell.
- 1885 Russian war scare followed by activity in improvement of defences. Formation of Mt Lyell Prospecting Association.
- 1886 Adye Douglas, Tasmanian Premier and President of the Federal Council, spoke in favour of Australian republicanism.
- 1887 Succession of Sir Robert Hamilton.
- 1890 Establishment of University of Tasmania.
- 1891 Collapse of Van Diemen's Land Bank; deep economic depression.
- 1892 Mt Lyell Mining Co. established.
- 1893 Succession of Viscount Gormanston.
- 1896 Establishment of Tattersalls Lottery by George Adams.
- 1897 Record shade temperature of 40.6° Celsius (105.5°F) at Hobart on 30 December.
- 1898 Serious bush fires. Polling four to one by Tasmanians in favour of Federation.
- 1899 Departure from Hobart of *Southern Cross* (Borchgrevinck) expedition to Antarctic.
- 1900 Departure of Tasmanian contingents to fight in the Boer War.
- 1901 Proclamation of the Commonwealth read. Polling for first elections to Federal Senate and House of Representatives. Succession of Sir Arthur Havelock.
- 1903 Celebration of 100 years' settlement cancelled because of smallpox epidemic in Launceston. Suffrage extended to women.
- 1904 Succession of Sir Gerald Strickland at reduced salary.
- 1905 Experiments in wireless telegraphy between Tasmania and the mainland and between Tasman Island and Hobart.
- 1906 Visit by Ramsay MacDonald (later British Prime Minister).
- 1907 New Public Library opened; built with gift from Andrew Carnegie.
- 1909 Succession of Sir Harry Barron. Potato crop wiped out by Irish blight. State's first Labor Government under John Earle.
- 1912 Disastrous fire at North Lyell Mine, Queenstown.
- 1913 Succession of Sir William Ellison Macartney.
- 1914 First aeroplane flight in Tasmania. Departure of first Tasmanian contingent to fight in Great War. Second State Labor Government formed under John Earle. Formation of Hydro-Electric Department.

- 1915 Serious bushfires.
- 1917 Establishment of electrolytic zinc works at Risdon and of Snug Carbide works.
- 1918 End of Great War.
- 1919 First export of frozen meat.
- 1920 Visit by Edward, Prince of Wales. Purchase of site for Cadbury's chocolate factory at Claremont.
- 1921 Population 213 780 persons (Census).
- 1922 Completion of Waddamana power station.
- 1924 First superphosphate manufactured by Electrolytic Zinc Co. at Risdon.
- 1925 Discovery of osmiridium fields at Adamsfield.
- 1927 Enquiry into proposed bridge over Derwent. Visit by Duke and Duchess of York.
- 1929 Serious floods throughout island. Establishment of automatic telephone system in Hobart. Beginning of economic depression.
- 1930 Export prices fell to half 1928 level. Australian pound devalued so that £1 sterling equalled £A1.25 (\$A 2.50).
- 1931 Depression continued—10 per cent cut in federal basic wage. Initiation of austere Premier's Plan. Conversion loan to reduce rate on internal federal debt by 22½ per cent. Census of population deferred due to economic crisis.
- 1933 Commonwealth Grants Commission appointed to enquire into affairs of claimant states.
- 1934 Labor Ministry of A. G. Ogilvie first in 35 years of continuous Labor Governments. Second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.
- 1936 Tasmania linked with Victoria by submarine telephone cable.
- 1937 Epidemic of poliomyelitis. Economic recovery evidenced by \$0.50 'prosperity' loading added to federal basic wage.
- 1938 Paper mill using native hardwoods established at Burnie. First turbines began operating at Tarraleah power station.
- 1939 Outbreak of World War II.
- 1940 Tasmanians sailed for Middle East with Australian 6th, 7th and 9th Divisions.
- 1941 Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with Australian 8th Division.
- 1942 Uniform federal income tax commenced.
- 1943 The floating-arch Hobart Bridge opened for traffic.
- 1944 Pay-as-you-earn (paye) income taxation introduced from 1 July.
- 1945 End of World War II.
- 1946 Cessation of man-power controls. Rejection by Legislative Council of bill to grant Federal Government price control powers for three years. Crash of DC3 airliner at Seven Mile Beach with 25 deaths.
- 1947 Court action to stop bank nationalisation by Federal Government. Demobilisation of forces completed. 'Displaced persons' commenced arriving from Europe.

- 1948 Forty-hour week awarded to most workers from 1 January. Tasmanians voted 'No' almost two to one in referendum denying Federal Government power over prices and rents. Legislative Council's denial of supply forced dissolution of House of Assembly—Cosgrove ministry returned to power.
- 1949 Compulsory X-ray introduced in fight against tuberculosis. Clark Dam at Butlers Gorge completed. Theatre Royal purchased by the Government. Sterling devalued by 30.5 per cent and Australian pound similarly devalued.
- 1950 End of federal petrol rationing. Dissolution of House of Assembly granted by Governor and Cosgrove ministry returned to power. *Communist Party Dissolution Bill* passed by Federal Parliament.
- 1951 *Communist Party Dissolution Act* declared invalid by High Court. Double Dissolution of Federal Parliament. Referendum to give Federal Government powers in regard to communism—'No' vote prevailed although Tasmanians expressed slight preference for 'Yes'.
- 1952 Single licensing authority established for hotels, clubs, etc. State free hospital scheme ceased. Rejection by Legislative Council of bill to give state aid to private schools.
- 1953 In September, Court abandoned system of quarterly adjustment of federal basic wage. State wages boards decided to follow Federal Court in suspension of quarterly basic wage adjustments.
- 1954 Royal visit by Queen. Menzies government re-elected. Bill passed to resolve deadlocks in House of Assembly. Foundation of the Metropolitan Transport Trust.
- 1955 Uranium ore discovered at Mt Balfour and Royal George. Bell Bay aluminium plant officially opened. Cosgrove ministry returned to power without effective majority. Australia's first capital city parking meters installed in Hobart. Trevallyn and Tungatinah schemes officially opened. Anti-Communist Labor Party (later D.L.P.) formed in State. Menzies government returned.
- 1956 State wages boards' restoration of 'cost-of-living' adjustments effective from 1 February but later they again suspended cost-of-living adjustments. Sir Ronald Cross granted dissolution of House of Assembly. Labor Party returned to power in State. Official opening of E.Z. Co's sulphate of ammonia plant. Centenary of self-government celebrated.
- 1957 Legislative Council rejected bill giving aid to private schools. First satellites—Sputniks I and II—seen over State. Centenary of Hobart's incorporation celebrated.
- 1958 Establishment of Rivers and Water Supply Commission. Mr Cosgrove succeeded by Mr Reece as Premier. Menzies government re-elected. Public Service Tribunal established as an industrial authority.
- 1959 First election to fill 35 seats in House of Assembly; Labor re-elected. New Australian Government system of grants reduced claimant states to two—Tasmania and Western Australia. *Princess of Tasmania* commenced roll-on roll-off ferry service Melbourne to Devonport.
- 1960 Liapootah power station commissioned. Zeehan-Strahan railway closed. Inland Fisheries Commission created. First Tasmanian telecast. Australian 'give way to the right' rule introduced on roads.
- 1961 *William Holyman*, cargo container vessel, entered Bass Strait trade. Legislative Council rejected equal pay legislation. Menzies government re-elected.
- 1962 Catagunya turbines began producing electricity. State wages boards granted three weeks' annual leave. State subsidies announced for municipal fluoridation schemes. Closure of Mt Lyell Railway, Queenstown to Strahan.

- 1963 Abolition of State entertainments tax. Federal Court increased margins 10 per cent and granted three weeks' annual leave. Universities Commission recommended medical school for Tasmanian University. Menzies government returned with substantial majority.
- 1964 T.A.A. commenced intrastate air services. Labor re-elected at State elections. Federal Court reduced long service leave qualifying period from 20 to 15 years. Tasman Bridge opened for traffic and Hobart Bridge towed away. Hobart's water supply fluoridated. Glenorchy raised to city status.
- 1965 *Empress of Australia* sailed from Sydney on first voyage to Hobart. Provisional driving licences introduced. Dental nurse scheme for schools announced. D'Entrecasteaux scallop beds closed for 1965 season. *New Shops Act* extended Saturday morning closing to Hobart's eastern suburbs.
- 1966 Decimal currency introduced 14 February. Burnie-Launceston co-axial cable completed. Equal pay for certain State Public Service females. Breathalyser tests approved for use by police. Holt Liberal Government returned with record majority. S.T.D. extended to Tasmania.
- 1967 Bush fire disaster of 7 February resulted in 62 deaths and over 1 000 houses destroyed. Petition presented against proposed flooding of Lake Pedder as part of Gordon hydro-electric scheme. Federal Arbitration Commission abolished basic wage and substituted total wage concept but basic wage retained in State awards. Mt Cleveland tin mining town of Luina completed. H.E.C. water reserves only 16 per cent of normal; introduction of daylight saving and power rationing to conserve power.
- 1968 H.E.C. Repulse Dam on lower Derwent completed. Batman Bridge across lower Tamar opened. Federal Government subsidy for apples and pears exported to U.K. and other countries which devalued their currency in 1967. Full adult suffrage for Legislative Council elections from 1 July 1969. Capital punishment abolished.
- 1969 Parangana Dam (Mersey-Forth scheme) completed. North-West General Hospital opened at Burnie. State election resulted in 17 A.L.P., 17 Liberals, one Centre Party (Mr Lyons). Mr Lyons combined with Liberals to form coalition government; ended 35-year Labor rule in Tasmania. Full Bench of Federal Arbitration Commission granted equal pay to females performing equal work; female salaries to be raised to male salaries in stages. U.S. astronaut took man's first step on the moon on 21 July. Launceston Teachers College officially opened. Copper smelter at Mt Lyell closed; concentrate sent to Japan and Port Pirie (S.A.) for treatment.
- 1970 \$1m bulk cargo berth completed at port of Burnie. Taroona Marine Research Laboratory officially opened. Broadband telecommunications link established between Smithton and King Island (provided telephone and television relay facilities). First pyrites railed from Rosebery to Burnie sulphuric acid plant. Work commenced at Selfs Point on second stage of Hobart's sewerage treatment scheme. E.Z. Co. to establish \$6.3m residue treatment plant. No mining exploration licences to be granted for Macquarie Island (flora and fauna reserve). Royal visit. Parliament legislated to introduce permanent daylight saving from last Sunday of October to second Sunday in March. Microwave telecommunication link with W.A. completed allowing direct television relays across the continent; Tasmanians able to make S.T.D. calls to Perth W.A. State premiers accepted Tasmanian formula for reimbursement in lieu of receipts duty.

- 1971** Centenary celebrations for Tasmanian railways. University of Tasmania to limit future student intakes. Tasmania to participate in federal rural reconstruction scheme. State Government to meet full costs of freeways and expressways; local government authorities to save considerable sums previously spent as their share of the costs. Port of Launceston Authority's current port improvement scheme completed. \$25m A.P.P.M. Ltd Wesley Vale paper plant opened. \$9m expansion programme at Comalco (Bell Bay) completed making it the largest aluminium smelting plant in Australia. Australia's oldest telephone trunk exchange, New Norfolk, closed. Shipping strike; A.C.T.U. to give Tasmania special consideration in event of future shipping strikes. Victoria Bridge at Devonport officially opened. Census of Population—Tasmania 390 413 persons.
- 1972** K. O. Lyons resigned cabinet portfolios and ended Liberal-Centre Party Coalition. House of Assembly elections—Labor returned with landslide victory (A.L.P., 21; Liberal Party, 14). A.P.P.M. Long Reach woodchip plant commenced production. English red fox (prohibited animal) caught in rabbit trap at Riverside (western shore of Tamar). Waterside workers were awarded 35-hour week. A.N.L. vessel *Princess of Tasmania*, which inaugurated roll-on roll-off ferry service to Tasmania in 1959, made her final trip to Tasmania. The Victorian Government banned sale of flake—seriously affected Tasmanian shark fishermen. C.S.I.R.O. reported excessive levels of zinc in oysters from Ralphs Bay at the entrance to the Derwent. Mt Lyell Mining and Railway Company Ltd fired last charge at its West Lyell Open-cut Mine—ended 37-year life of the open-cut. (Company returned to underground mining for most of its ore.) State Government announced cigarette and tobacco tax. King Islands' Naracoopa rutile mine re-opened by Buka Minerals (N.L.). Federal elections—A.L.P. returned to power (after 23 years in Opposition). Tasmania returned five A.L.P. members. 300 million years old fossil of dragon fly discovered in Hellyer Gorge (west coast area). National Wage Case decision handed down: (i) Commission agreed to apply the principle of equal pay for work of equal value in all of its awards; (ii) no increases to the total or minimum wages granted. Trial dumping at sea of jarosite waste from Electrolytic Zinc Company's Risdon plant carried out.
- 1973** The Electrolytic Zinc Company Pty Ltd received permission to dump jarosite waste at sea. Federal Government withdrew its offer to finance alternative to the H.E.C. scheme for Lake Pedder. First train travelled the Bell Bay rail link. The first casino in Australia—Wrest Point—officially opened. Age of Majority Bill passed by Parliament giving vote to 18 year olds. The \$121m Mersey-Forth H.E.C. scheme officially opened. Work began on \$1m Alanvale Matriculation College, Launceston. Committee appointed to investigate Tasmanian liquor laws. National Wage Case—minimum wage lifted to \$60 and weekly award wage rates increased by \$2.50 plus two per cent. No commercial quantities of scallops located in Fisheries Division survey of D'Entrecasteaux Channel. State Government to investigate the feasibility of building a second bridge across the Derwent near Hobart. Federal Budget set aside \$0.5m for planning and development of the Tamar Valley area. Storeys Creek tin mine closed down. Australian dollar revalued upwards by five per cent. Contract worth \$3m let for the first stage of the Burnie Matriculation College. Heavy concentrations of zinc, copper and cadmium found in oysters collected from Derwent and Tamar estuary areas. Tasmanian Professional Fishermen's Association conference expressed grave concern over industrial pollution of Bass Strait waters. Feasibility study commenced into proposed pig-iron

industry for north-west coast. Two-up legalised at Hobart casino. The State Government chartered the 350 ton *Blythe Star* for the King and Flinders Islands shipping runs. A Japanese company—Nippa Light Metal Co. Ltd—to investigate the possibility of establishing an aluminium refining plant in Tasmania. A trout farm with an ultimate annual output of 250 000 fish established at Huonville. The *Blythe Star* lost at sea while on charter to the Transport Commission. Seven survivors located at Deep Glen Bay on the Tasman Peninsula after they had drifted eight days on a life raft. Two of the 10-man crew died when the vessel sank and a third died shortly after the life raft reached shore. Preliminary work began on H.E.C. Pieman Scheme. Comprehensive survey ordered of parts of Bass Strait to determine the effects of calcine waste dumping by North-West Acid Pty Ltd (Burnie). The Federal Government made a \$95 000 grant for restoration of Port Arthur convict settlement site. Comalco Ltd announced cessation of alumina production at Bell Bay; production of aluminium powder and paste to be doubled. Tasmania voted in line with other Australian states on prices and incomes referendums—'No' to both. Alginates (Australia) Ltd closed down its East Coast seaweed harvesting and processing operation.

1974 Headquarters of Australian Government Antarctic Research Division to be transferred to Hobart. Tioxide (Aust.) Pty Ltd announced \$3m expenditure programme—part of expenditure to be on reduction of sea discolouration by effluents. Fees for technical education courses abolished for all students. B.H.P. announced \$28.5m expansion project for the Temco ferro-alloy plant at Bell Bay. Workers under State Wages Boards' awards granted four weeks annual leave. Cressy-Longford irrigation scheme officially opened. Anti-pollution regulations under *Environment Protection Act* gazetted. Renison Ltd began work on \$3m expansion programme at the Renison Bell mine. Royal Commission's report on urban transport released—advocated cessation of suburban rail services. Transport Commission's ship *Straitsman* sank in Yarra River—two lives lost. E.Z. Co. resumed production after 21 day strike. High Court ruled Tasmanian tobacco tax valid, but method of collection invalid. T.A.B. legislation passed by State Parliament. New \$1.3m passenger terminal announced for Hobart airport. Double dissolution of Australian Parliament. Form filling procedure invoked for collection of State tobacco tax. Severe floods in eastern part of Tasmania. Municipal Commission Report released—recommended some amalgamations and boundary redistributions. National Wage Case—total wage increased by two per cent plus \$2.50. New \$2m timber-using industry proposed for Scottsdale area. Federal Labor Government re-elected; Tasmanian representation: House of Representatives—five A.L.P.; Senate—five A.L.P., four Liberal, one independent. Transport Commission to purchase Finnish vessel *Rab* for King Island service. Tobacco tax withdrawn but legislation not repealed. Tasmania withdrew as a claimant state for Special Grants. Premier announced proposal to transfer State rail system to Australian Government. Ships engineers' strike caused serious disruption to the Tasmanian economy. Mr Fagan and Dr Foster resigned from cabinet—replaced by Mr Farquhar and Mr Frost. Temco commenced installation of two new furnaces for manufacture of manganese alloys and ferro-silicon. Government decided against implementation of the Municipal Commission's proposals. Textile industries (particularly in Launceston area) retrenched workers. Federal Government announced new wool selling support scheme—guaranteed up to \$200m to enable Wool Corporation to operate scheme. Boiler explosion at laundry run by Mt St Canice Convent—8 persons killed and many injured. Gordon power scheme



cost rose from estimated \$95m to \$151m. A.N.L. announced 25 per cent increase in freight rates for Tasmanian run. Women under State Wages Boards determinations awarded equal pay—parity with male rates by April 1975. Legislative Council reduced MTT budget vote by \$47 000. Australian Government announced \$2m subsidy for A.N.L. Tasmanian freight routes. Tasmania received \$700 000 for Regional Employment Development schemes. Report commissioned by National Parks and Wildlife highlighted rapid deterioration of the ruins at Port Arthur. A \$2m clay extraction plant to be established at Tonganah in the north-east. Tasmania to receive an additional \$4.2m for housing finance. Goliath Cement Holdings disclosed a \$12m expansion programme to double output of cement and a feasibility study on conversion of kilns from oil to coal burning. European carp discovered in farm dams along the north-west coast. A \$3.75m expansion programme planned by Tioxide Aust. Pty Ltd. Hobart City Council consider an application for an 18 storey building complex in Hobart. *Straitsman* towed to Port of Launceston Authority's shipyard for \$790 000 refit. South Eastern Builders Pty Ltd in voluntary liquidation but press for arbitration on alleged breach of contract by P.W.D. over the \$3m Launceston police building. Federal Government declared the Midland and Bass Highways from Hobart to Burnie a national highway. Tasmanian Government considered legislation to enable the eradication of European carp by poisoning. Federal Minister for Transport announced A.N.L. freight rates for north bound freight from Tasmania to be reduced by an average of 25 per cent. Commercial aircraft flights to Tasmania resumed after a four day national pilots' strike. Concrete pouring completed on the 140 metre high Gordon Dam. Plans announced for a \$5m rehabilitation hospital. State school teachers to receive Christmas holiday pay in three instalments—Premier admitted that the State Government was suffering liquidity problems. No fault third party insurance scheme implemented. A.P.P.M. to cut woodchip production and retrench some workers because of a 30 per cent drop in demand. Nimmo enquiry told that several firms could not plan expansion in Tasmania because of the freight cost disadvantage. A.P.P.M. Ltd's Burnie mill retrenched 154 workers before Christmas. Federal grant of \$230 000 to help maintain employment in two northern textile mills. National minimum wage increased by \$8.00 (to \$76.10 for men). Federal Government to provide financial assistance for Tasmanian apple export industry. Darwin devastated by cyclone 'Tracy' and total damage estimated to be in the region of \$500m. Ondine III took line honours in the Sydney-Hobart yacht race.

## Chapter 2

### PHYSICAL ENVIRONMENT

#### GENERAL DESCRIPTION

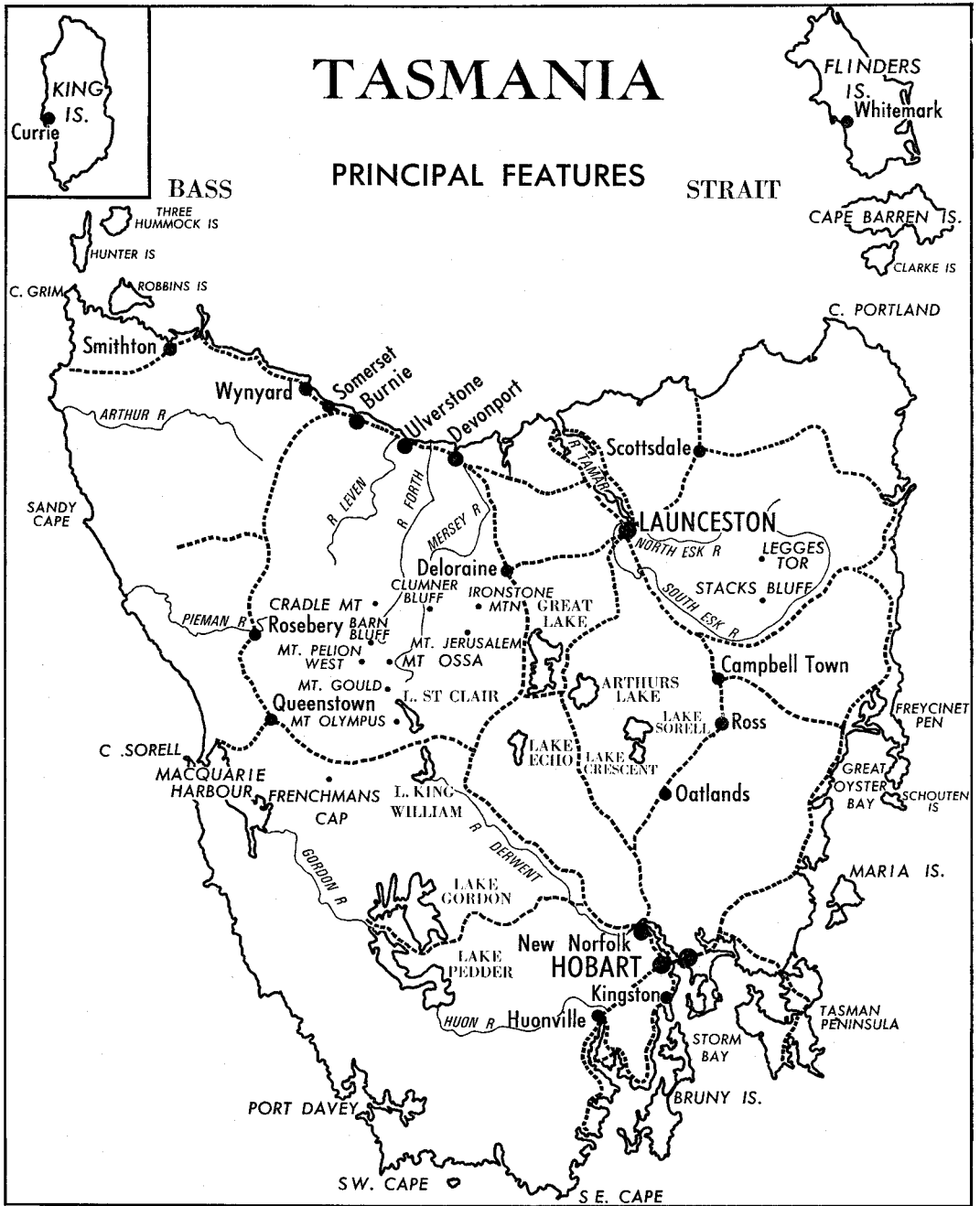
##### Location and Area

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian mainland; the major island is called Tasmania and the more important of the lesser islands are King, Flinders and Bruny. Roughly shield shaped with the greatest breadth in the north, Tasmania extends from  $40^{\circ} 38'$  to  $43^{\circ} 39'$  south latitude and from  $144^{\circ} 36'$  to  $148^{\circ} 23'$  east longitude. The coastline is bounded by the Southern Ocean on the south and west and the Tasman Sea on the east while Bass Strait separates the island from the Australian mainland by approximately 240 kilometres. Macquarie Island, a part of the State, is situated at  $54^{\circ} 38'$  south latitude,  $158^{\circ} 53'$  east longitude and is bounded by the Southern Ocean.

The area of the whole State, including the lesser islands, is 68 331 square kilometres or about 0.9 per cent of the total area of Australia (7 686 854 square kilometres); it is just under one-third the size of Victoria, the smallest mainland state.

Australia, extending as it does well north of the Tropic of Capricorn, and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent continent. Being south of latitude  $40^{\circ}$ , it is on the edge of the wind belt commonly known as the *Roaring Forties* and without the protection of a land mass to the west, the nearest being South America, Tasmania's weather is subject at times to strong winds and heavy rain about the south and west coastal areas. Because Tasmania is the most southern state, there is a tendency to think of it as being close to the Antarctic but its latitude is matched, in the northern hemisphere, by that of Madrid (Spain) and Pittsburgh (U.S.A.). In addition, as Tasmania is an island, it is sheltered from the extremes of heat and cold experienced in these two centres. The effect of its insular position is illustrated by the variation between summer and winter mean temperatures in coastal towns—this rarely exceeds  $8^{\circ}$  Celsius. Comparing Hobart (Tasmania) with Melbourne (Victoria), mean maxima are some  $3^{\circ}\text{C}$  warmer and mean minima  $1.5^{\circ}\text{C}$  warmer in the Victorian capital.

Apart from the Great Dividing Range in the east, Australia is predominantly a land of low plateaux and plains with little relief. By way of contrast, Tasmania could legitimately be called the island of mountains, since it has the largest proportion of high country to its total area, compared with the other states. The distinctive feature of the island is not so much the height of the mountains—few exceed 1 500 metres—but rather the frequency with which they occur. The British Admiralty Pilot Book describes Tasmania as 'probably the most thoroughly mountainous island on the globe'.



**Principal Physical Features**

The following table lists the principal mountains, lakes and rivers of Tasmania (for their location see the previous map):

**Principal Physical Features**

MOUNTAINS			
Name	Height (metres)	Name	Height (metres)
Mt Ossa .. .. .	1 617	Stacks Bluff .. .. .	1 527
Legges Tor .. .. .	1 573	Mt Gould .. .. .	1 491
Barn Bluff .. .. .	1 559	Mt Jerusalem .. .. .	1 458
Mt Pelion West .. .. .	1 554	Mt Pelion East .. .. .	1 451
Cradle Mountain .. .. .	1 545	Clunner Bluff .. .. .	1 449

LAKES			
Name	Area (square kilometres)	Name	Area (square kilometres)
Lake Gordon (a) .. .. .	272	Lake King William (a) .. .. .	41
Lake Pedder (b) .. .. .	241	Lake Echo (c) .. .. .	41
Great Lake (c) .. .. .	158	Lake St Clair .. .. .	28
Arthurs Lake (c) .. .. .	64	Lake Augusta (c) .. .. .	12

RIVERS			
Name	Length (kilometres)	Name	Length (kilometres)
Derwent .. .. .	148	Huon .. .. .	121
South Esk (d) .. .. .	145	Arthur .. .. .	113
Gordon .. .. .	129	Pieman .. .. .	106

(a) Man-made.

(b) Man-made—inundated the much smaller natural Lake Pedder.

(c) Natural lake enlarged by dam(s).

(d) From source to confluence with North Esk; at this point the river becomes known as the Tamar.

If the Tamar is included in the length of the South Esk a further 56 km is added to its length.

**Population Distribution**

With a population exceeding 400 000, Tasmania is still thinly populated although its density of about six persons per square kilometre is exceeded only by Victoria and New South Wales among the Australian states. By comparison, the population density of Japan exceeds 280 persons per square kilometre and that of the People's Republic of China and of Indonesia exceeds 80 persons per square kilometre.

A marked characteristic of the mainland states of Australia is the very high concentration of population in their respective metropolitan areas, Brisbane providing the only example where this concentration falls below 50 per cent of the State's total population. In contrast, the Tasmanian population is concentrated in two main areas: (i) Urban Hobart, with about 34 per cent; and (ii) Urban Launceston with about 16 per cent. This deviation from an Australian pattern is partly explained by the relative proximity of Launceston to the principal mainland markets. However, terrain and climate have also had a large influence on the distribution of the State's population. A convenient way to summarise, in approximate terms, the present pattern of settlement is to imagine three circles of 40 kilometres radius centred on Hobart (representing the south-east), Launceston

(the north) and Ulverstone (the north-west): (i) with Hobart as centre, 43 per cent of the Tasmanian population is located within the 40 kilometre circle; (ii) with Launceston as centre, 21 per cent; (iii) with Ulverstone, 18 per cent. Since all circles are exclusive of each other, these three defined areas together contain more than 84 per cent of the State's population and this fact justifies the generalisation that the main settlement is in the south-east, the north and the north-west.

## PHYSIOGRAPHY

### Introduction

Tasmania is an island of mountains and is unique among Australian states in being predominantly influenced by polar maritime air masses. From the point of view of settlement and development, these two factors have combined to create assets against which must be weighed certain liabilities. The island, a mere 290 kilometres from north to south and 305 kilometres from east to west, has a wide variety of mountains, plateaux and plains, of rivers, lakes and tarns, of forest, moorland and grassland, of towns, farms and uninhabited (and virtually unexplored) country. The temperate maritime climate partly explains Tasmania being called the most English of all states but other factors operate to heighten the comparison—the pattern of agricultural settlement with orchards, hedges and hopfields; the lake country; the early freestone architecture still common in the east; the roads and villages dotted with oaks, elms and poplars. Nature and the early settlers have provided the assets for a flourishing tourist industry which is currently being vigorously developed. Assured rainfall and mountain storages have also given birth to massive development of hydro-electric power and, indirectly, to industry. The growth of forests, too, is promoted by suitable rainfall and temperature, and this forms the basis for industries such as timber-milling, newsprint and other paper production and wood-chipping.

The mountainous nature of the island is confirmed by survey which shows six features exceeding 1 500 metres, 28 exceeding 1 220 metres and a further 28 exceeding 915 metres. The highest mountain is Mt Ossa (1 617 metres) some 16 kilometres north-west of Lake St Clair, and north-west again from this peak lie Mt Pelion West (1 554 metres), Barn Bluff (1 559 metres) and Cradle Mountain (1 545 metres); the furthest distance, 24 kilometres, is from Mt Ossa to Cradle Mountain. In the Ben Lomond area, the principal features are Legges Tor (1 573 metres) and about 10 kilometres south, Stacks Bluff (1 527 metres). Each of these mountainous regions and a number of others have been set aside as national parks, two of which, Ben Lomond and Mt Field, are renowned for winter sport.

### Water Resources and Rainfall

Fresh-water navigation has played very little part in Tasmania's development, the rivers being too fast-running, shallow or short. Of the four major ports, three are located on tidal estuaries—Hobart on the Derwent; Launceston on the Tamar and Devonport on the Mersey (Burnie has built a port, on the open sea, protected by breakwaters). Rivers, however, are significant for three reasons: (i) use of headwaters for electricity generation; (ii) domestic and industrial water supply; (iii) irrigation. Hobart for example draws much of its water supply direct from the upper Derwent River without use of a dam and the flow is adequate to serve a population at least 10 times greater than that at present. The development of hydro-electric power has been based on full utilisation of the sources and tributaries of the Derwent with a chain of power houses stretching from Poatina on the Great Lake to Meadowbank only 51 kilometres from Hobart. At Launceston,

too, the waters of the South Esk have been harnessed at Trevallyn. In the north-west, the Mersey-Forth scheme exploits the Fisher, Mersey, Wilmot and Forth Rivers in a development spread over approximately 2 070 square kilometres. This does not exhaust the possibility of future development as work on the Gordon-Serpentine system in the south-west is proceeding, preliminary work on the Pieman River system has commenced, and the Franklin and King Rivers are considered to have substantial potential for power development.

To obtain a true perspective, it should be appreciated that large areas of the State cannot be cultivated because there is too much rainfall (in contrast with the mainland of Australia where often the reverse situation applies). Further, the mountainous terrain and accompanying highland climate have restricted farming to relatively small areas of suitable country, mainly river valleys, coastal plains and the lower plateaux. In 1974, farm statistics showed that 37.5 per cent of the State's area was occupied by rural holdings. Only 2.9 per cent of the area of rural holdings was under crop and a further 35.9 under sown pasture. The remaining 61.2 per cent of rural holdings included bush runs, uncleared scrub or possibly land unsuitable for any rural purpose at all. A high proportion of the State's area not included in rural holdings is composed of forests, national parks and lakes.

### Physiographic Regions

To explain the pattern of settlement, it is necessary to isolate the various physiographic regions of the State as follows:

*Central Plateau:* The main feature is a relatively undissected, dolerite-capped plateau sloping generally south-eastward from an average level of 1 065 metres in the north to 610 metres in the south, and drained almost wholly by the Derwent system. The northern and eastern boundaries of the Plateau are the Great Western Tiers (paradoxically named since they lie in the central north of the island). This is known as the 'lake country' of the island and is the chief source of hydro-electric power.

*High Dissected Plateau:* West of Lake St Clair, dolerite caps steeply-tilted sediments and the plateau is much dissected; it comprises a series of peaks and broken ridges. The coastlands in the extreme south of the region are rugged but in the D'Entrecasteaux Channel and Huon River areas, narrow coastal belts have been devoted to specialised agriculture.

*Western Ranges:* The high dissected plateau is bound by a mountainous series of ranges running parallel to the west coast and in this region are located the State's principal mines. The south of the region is completely uninhabited except for construction workers on the Gordon power scheme.

*Western Coastal Platforms:* Throughout almost the entire length of the west coast, an uplifted and much dissected peneplain slopes westward from about 275 metres to end abruptly in cliffs more than 30 metres high. In the south of this region, superhumid button grass plains predominate, and the area is uninhabited. On the coastal plain south of the Arthur River, however, dairy cattle are wintered on agistment runs, while north of the river dairying begins to appear and swamps formed by recent emergence have been cleared for farming.

*North-West Plateau:* North of the Western Ranges lies a plateau averaging nearly 610 metres and important mainly for forestry; the coastlands derive mainly from basalt, giving rise to intensive mixed farming based on dairying, potatoes and crops for canning and freezing, such as peas and beans.

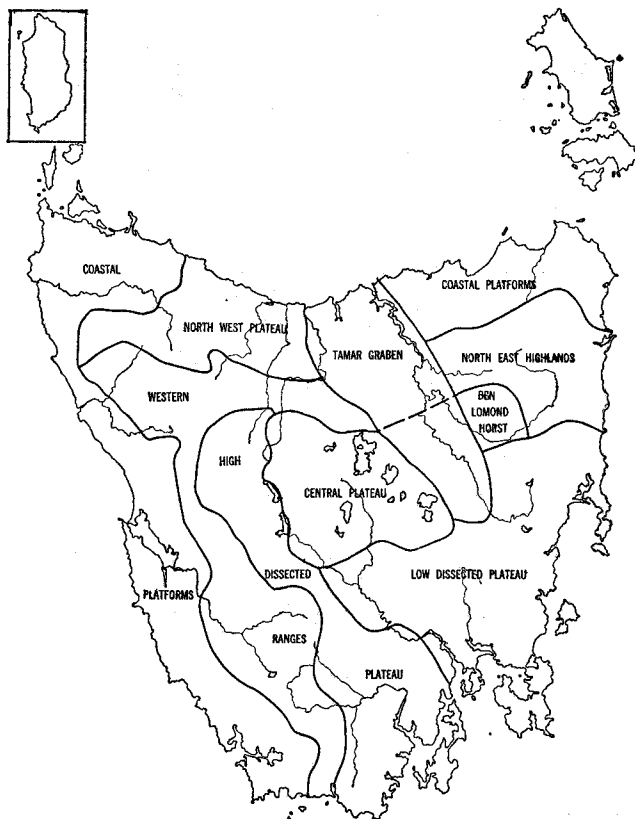
**Tamar Graben:** This graben (rift valley) is the largest plain and the leading agricultural and pastoral district in the State; it ends in the drowned inlets of the Tamar and Mersey estuaries and Port Sorell in the north.

**North-East Coastal Platforms:** This region consists of undulating lowland but the soils are acidic and the land is used only for grazing.

**North-East Highlands and Ben Lomond Horst:** This region comprises mostly uplifted remnants of old fold mountains dominated by the 1525 metre dolerite-capped plateau horst of Ben Lomond, an outlier of the Central Plateau. Here agriculture is largely confined to small basalt-derived basins. Some minerals are worked.

**Low Dissected Plateau:** In the south-east lies a low dissected dolerite plateau averaging perhaps 365 metres and used mainly for grazing. The northern coastlands of this region are narrow and also devoted to sheep, but the southern coastland is important for its specialised agriculture. At the extreme south of the region is the drowned estuary of the Derwent and the Tasman and Forestier Peninsulas.

#### TASMANIA PHYSIOGRAPHIC REGIONS



*The above regions derive from a classification by J. L. Davies, M.A., Ph.D., University of Tasmania.*



## DESCRIPTION OF STATISTICAL DIVISIONS

### Introduction

Earlier in this chapter the State of Tasmania was briefly described by analysing its terrain in terms of physiographic regions. For statistical purposes, the State is also analysed in divisions but these do not necessarily coincide with physiographic regions, one reason being that the former are basically groupings of whole municipalities. The traditional Tasmanian statistical divisions, in use for over 50 years, were exposed to searching scrutiny in 1971 and the decision was taken to introduce a new structure, to be applied to statistics in respect of periods commencing on or after 1 July 1972.

### History of Statistical Divisions

The grouping of administrative areas into divisions for statistical purposes can be found in annual volumes of the *Statistics of Tasmania* dating back to the nineteenth century. The administrative areas included: police districts; registration districts; electoral districts; and municipalities. The boundaries of these areas were subject to periodic changes. The *Local Government Act* 1906 provided a basis for the whole State coming under uniformly constituted local government and gradually the divisional grouping of administrative areas was confined, in official statistics, to municipalities. As a result of this Act, fixed local government area (municipality) boundaries were delineated in 1907 by a commission specially set up for the purpose. The new boundaries have remained broadly unchanged since 1907 although there have been numerous relatively minor boundary changes. One exception is that the old municipalities of 'Hobart', 'Queenborough' and 'New Town' were combined to form the new municipality of 'Hobart' in 1919. The names of several municipalities have also been changed since 1907. Small area statistics relating to 1907 and earlier years are not generally comparable with later statistics produced by the Bureau due to the boundary changes in 1907.

In 1919, groupings of local government areas appeared very similar to those still used in 1971; in some series, Hobart, Launceston and Glenorchy were separately specified as components of an 'Urban Division' distinct from the region in which each was located.

The basis for these 1919 groupings can only be inferred since no specific criteria was specified in the records. The Western Division clearly combined the 'west coast' mining municipalities into one entity; the Southern seemed to be based on orcharding, small fruit and hop areas; while the South Eastern was allied more with pastoral and grazing areas. In short, the main determinant may well have been similarity of rural activity (with the Western Division a special case because of its mining activity).

After the 1966 population census, a new division was formed with the title Hobart Division, comparable with similar capital city divisions in other states; its boundaries were drawn wide enough to encompass the expected expansion of the inner urban area for the next 20 or 30 years. Apart from this, the broad divisional structure in 1971 was very much the same as it had been in 1919.

In 1972 a new statistical division structure, using the three principal urban centres of influence as a basis, was designed. The three urban centres and their area of influence were: (i) Hobart—south and south-east; (ii) Launceston—north and north-east; and (iii) Burnie-Devonport—north-west and west. The following divisional structure was then adopted: (i) with Hobart as focus—Hobart and Southern Divisions; (ii) with Launceston as focus—Northern Division split into Tamar and North Eastern Sub-divisions; and (iii) with Burnie-Devonport as focus—Mersey-Lyell Division split into North Western and Western Sub-divisions.

### Outline of the Present Structure

The divisions in the new structure are as follows:

#### *Hobart Division*

This Division comprises Hobart and Glenorchy Cities, the Municipality of Clarence, and parts of four other municipalities: Brighton; Kingborough; New Norfolk; and Sorell. The Division is Tasmania's principal industrial region and the administrative focal point. The Hobart Division has boundaries drawn wide enough to contain the expected outward growth of the inner urban area for the next 20 or 30 years.

One important component of the Hobart Division is Urban Hobart, defined as the densely settled contiguous parts of the cities of Hobart and Glenorchy, and of the municipalities of Clarence and Kingborough. The boundaries of Urban Hobart and of the Hobart Division do not conform with borders defining local government areas. (The details of these boundaries are given in chapter 6 'Demography' under 'Population Centred on Hobart.')

A rough approximation of the area of the Hobart Division can be obtained by drawing the quadrilateral New Norfolk-Pontville-Carlton River Mouth-Snug.

#### *Southern Division*

Comprises the southern local government authority areas which have Hobart as their urban focus. Predominant activities include orcharding, sheep and cattle grazing, forestry and timber processing.

#### *Northern Division*

The Northern Division is the region with Launceston as its urban focus.

(i) *Tamar Sub-division*: This is the region dominated by the Tamar Valley. In the centre of this area is Launceston and its suburbs (known as Urban Launceston). This Sub-division includes several major manufacturing industries, port facilities of the northern region and agricultural, pastoral, dairying and forestry industries.

*Urban Launceston* is defined for statistical purposes as the City of Launceston plus the contiguous urban parts of the following municipalities: Lilydale, St Leonards, Evandale, Westbury and Beaconsfield.

(ii) *North Eastern Sub-division*: Comprises the outer seven municipalities of the Northern Division. Principal activities include agriculture, dairying, sheep and cattle grazing, forestry and some mining.

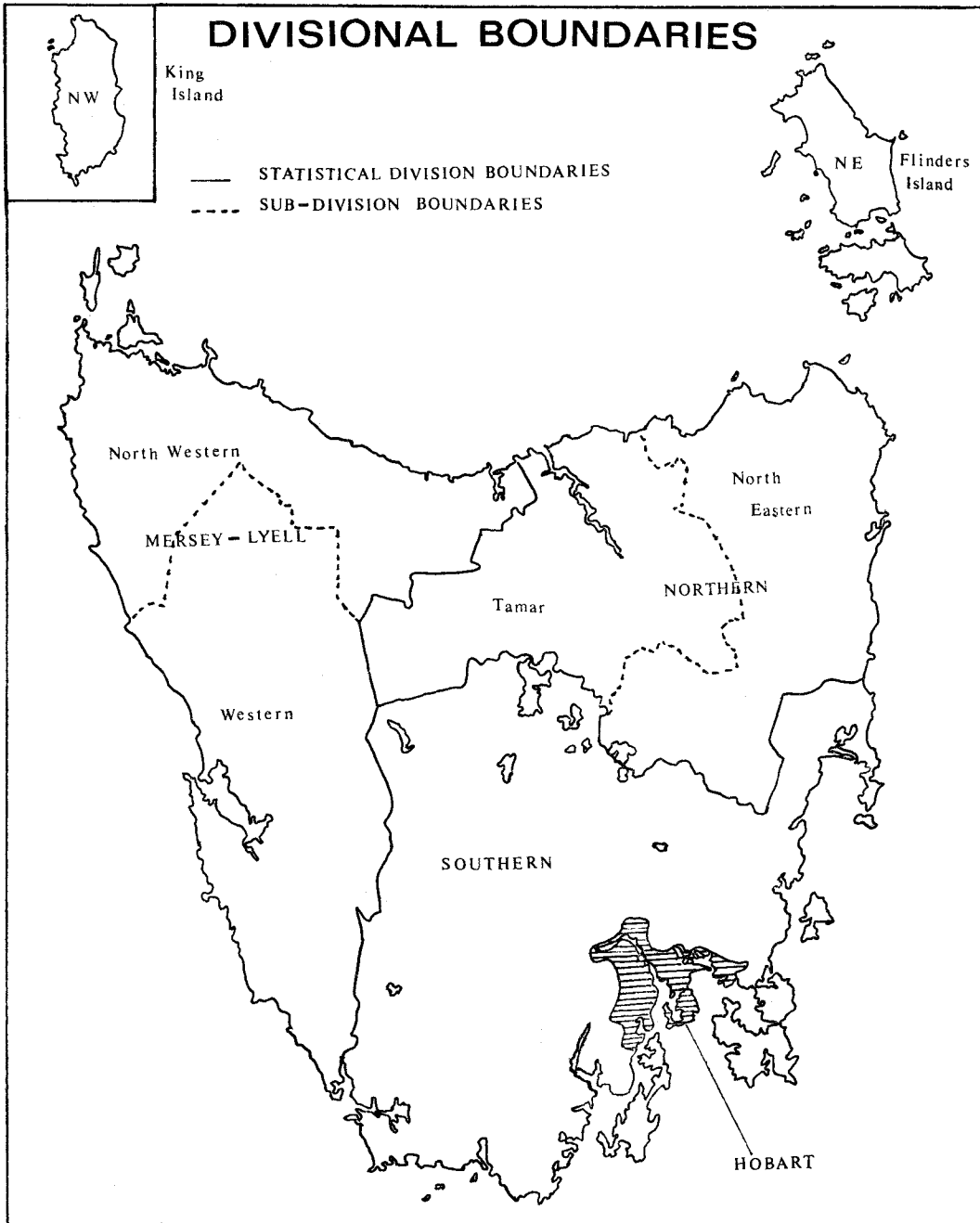
#### *Mersey-Lyell Division*

This division encompasses the north-west and western portions of the State. The region has a twin urban focus of Burnie-Devonport.

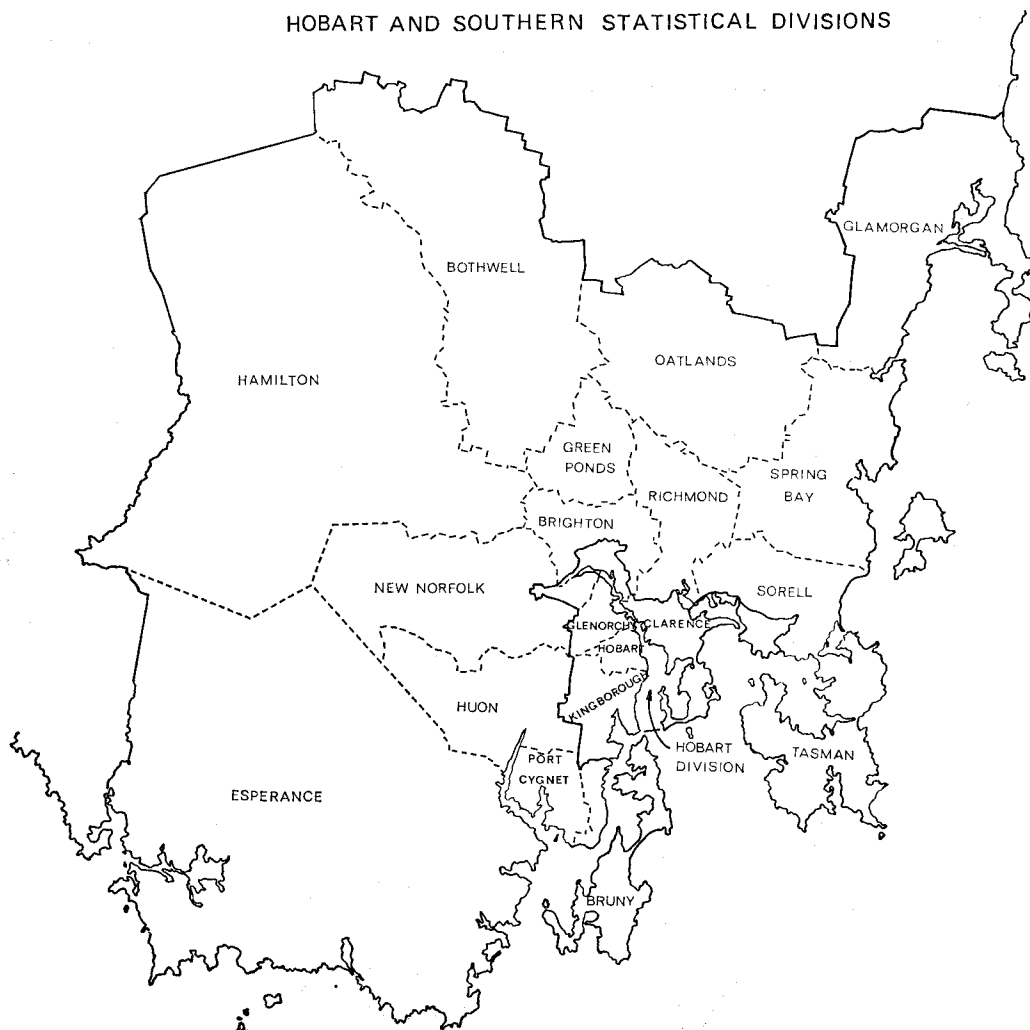
(i) *North Western Sub-division*: Comprises the municipalities stretching along Bass Strait from Latrobe to Circular Head plus Kentish and King Island. The Sub-division includes several major manufacturing industries and is a principal agricultural, pastoral, dairying and forestry area for the State.

(ii) *Western Sub-division*: Contains Tasmania's western municipalities where mining activities predominate.

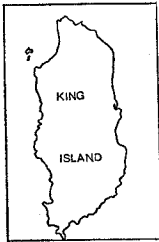
The following maps show: (i) statistical division and sub-division boundaries; (ii) local government authority components of statistical divisions.



## HOBART AND SOUTHERN STATISTICAL DIVISIONS







MERSEY-LYELL STATISTICAL DIVISION



## ADMINISTRATION AND AREA OF STATE

## Sovereignty

Tasmanian sovereignty covers an area bound by the approximate rectangle 39° 12' to 45° south latitude and 140° to 150° east longitude, and also includes Macquarie Island further south.

Since the boundary line between Tasmanian and Victorian sovereignty is defined as 39° 12' south latitude, numerous Bass Strait Islands, the chief being the Furneaux group, King Island and the Hogan, Curtis and Kent groups, are part of Tasmania. In effect some Tasmanian territory (Rodondo and West Moncoeur Islands) is located only 13 to 16 kilometres from the Victorian coast.

The proclamation of 39° 12' south latitude as the northern boundary of Tasmanian sovereignty dates from 1825 when Van Diemen's Land became a colony distinct from New South Wales. Subsequent State mining legislation has followed the limits of the 1825 proclamation and Tasmania claims mining jurisdiction over Bass Strait as far north as 39° 12' south latitude. (*A High Court decision in 1976 cast doubt on this claim—see Appendix A.*)

Macquarie Island, site of an Antarctic research station and also part of the State of Tasmania, is situated in 54° 38' south latitude, 158° 53' east longitude and its area is included in Esperance, a State coastal municipality.

## Area of Major and Minor Islands

The official area of the State of Tasmania (based on a 1963 survey) is 68 331 square kilometres (6 833 000 hectares).

The State consists of 49 local government areas (cities and municipalities). Many islands are included in the area of the State. Those which either singly or as a group form complete municipalities are Bruny, King and Flinders Islands. The others comprise parts of municipalities centred on the main island of the State. The following table shows the area of the main islands and the municipalities to which they belong:

Area of Islands

Island	Area (square kilometres)	Municipality
Bruny .. .. .	362	Bruny (a)
King .. .. .	1 099	King Island (a)
Flinders .. .. .	1 374	Flinders (a)
Prime Seal .. .. .	10	
Badger .. .. .	10	
Vansittart .. .. .	6	
Cape Barren .. .. .	445	
Clarke .. .. .	113	Circular Head
Three Hummock .. .. .	70	
Hunter .. .. .	74	
Robbins .. .. .	101	
Maria .. .. .	101	Spring Bay
Schouten .. .. .	34	
Macquarie .. .. .	123	
Total islands .. .. .	3 923	Glamorgan
Mainland Tasmania .. .. .	64 408	
Total Tasmania .. .. .	68 331	Esperance

(a) Island municipality.



## Area of Municipalities and Cities

In the table that follows, the measured areas of local government areas and of the State (6 833 108 hectares or 68 331.08 square kilometres) have been rounded to the nearest square kilometre as the accuracy of more detailed measurement is difficult to determine. Where municipal boundaries lie in the sea or an estuary these legal limits have been disregarded so that the stated area relates to a physical boundary (i.e. the coastline). However, the areas shown include all smaller islands which form part of the State.

Area of Statistical Divisions, Sub-divisions and Local Government Areas  
(Square Kilometres (a))

Local government area (statistical division and sub-division in bold type)	Area	Local government area (statistical division and sub-division in bold type)	Area
Hobart (b) (H) ..	80	Campbell Town.. ..	1 435
Glenorchy (b) (H) ..	120	Fingal .. ..	2 731
Clarence (H) ..	251	Flinders .. ..	1 992
Brighton (H) (S) ..	441	Portland .. ..	1 581
Kingborough (H) (S) ..	355	Ringarooma .. ..	1 632
New Norfolk (H) (S) ..	1 316	Ross .. ..	1 240
Sorell (H) (S) ..	782	Scottsdale .. ..	1 292
Bothwell (S) ..	2 608	<b>North Eastern</b> ..	<b>11 904</b>
Bruny (S) ..	362	<b>NORTHERN</b> ..	<b>20 606</b>
Esperance (S) ..	6 186		
Glamorgan (S) ..	1 535		
Green Ponds (S) ..	416	Burnie .. ..	618
Hamilton (S) ..	5 850	Circular Head .. ..	4 917
Huon (S) ..	774	Devonport .. ..	116
Oatlands (S) ..	1 540	Kentish .. ..	1 187
Port Cygnet (S) ..	240	King Island .. ..	1 099
Richmond (S) ..	568	Latrobe .. ..	549
Spring Bay (S) ..	1 122	Penguin .. ..	432
Tasman (S) ..	480	Ulverstone .. ..	511
<b>HOBERT</b> ..	<b>938</b>	Wynyard .. ..	813
<b>SOUTHERN</b> ..	<b>24 086</b>	<b>North Western</b> ..	<b>10 242</b>
Launceston (b) .. ..	28	Gormanston .. ..	2 872
Beaconsfield .. ..	638	Queenstown .. ..	142
Deloraine .. ..	2 917	Strahan .. ..	3 733
Evandale .. ..	990	Waratah .. ..	2 709
George Town .. ..	654	Zeehan .. ..	3 003
Lilydale .. ..	684	<b>Western</b> .. ..	<b>12 458</b>
Longford .. ..	998		
St Leonards .. ..	891	<b>MERSEY-LYELL</b> ..	<b>22 700</b>
Westbury .. ..	904		
<b>Tamar</b> .. ..	<b>8 703</b>	<b>TASMANIA</b> ..	<b>68 331</b>

(a) One square kilometre = 100 hectares.

(b) City.

At the 1966 Population Census, new definitions based on high population density were employed to fix the boundaries of urban areas. The two major centres in the State at the 1971 Population Census, with boundaries conforming to the definitions, were: (i) Urban Hobart (approximately 112 square kilometres); and (ii) Urban Launceston (approximately 74 square kilometres). (See chapter 6 for definition of these areas.)

## CLIMATE OF TASMANIA

*(The following section was prepared by the Bureau of Meteorology.)*

### Introduction

Since Tasmania lies between  $40^{\circ}$  and  $43\frac{1}{2}^{\circ}$  south of the Equator and is an island with no point more than 115 kilometres from the sea, its climate is classified as temperate maritime. On the coast the daily temperature range averages about  $8^{\circ}$  Celsius, rising to about  $12^{\circ}$  Celsius further inland, indicating a slight continental effect.

The combination of mountainous terrain in the western half of the State and prevailing westerly winds produce a marked west-east variation of climate, and especially of rainfall.

Summers are mild and characterised by greatly lengthened days. The sun reaches a maximum elevation of  $70-73^{\circ}$  in mid-summer, giving 15 hours of daylight in the north and  $15\frac{1}{2}$  hours in the south. In mid-winter, the sun's elevation does not exceed  $20-23^{\circ}$ , and the shortest day consists of  $9\frac{1}{4}$  hours of daylight in the north, falling to slightly under nine hours in the south.

In winter, westerly winds reach their greatest strength and persistence, causing a distinct maximum in rainfall distribution in the west and north-west. In the east and south-east, rainfall is more evenly distributed throughout the year. Coastal areas of Tasmania enjoy relatively mild winters as compared with Boston (U.S.A.) which is about the same latitude north but experiences more severe winter weather conditions.

### Winds

The prevailing winds over most of the island are north-west to south-west, with greatest strength and persistence during late winter. Speed and direction vary with the eastward passage of high and low pressure systems. In the summer months, when westerlies are weak, afternoon sea-breezes become the predominant wind in coastal areas. Occasional periods of north-east to south-east winds occur.

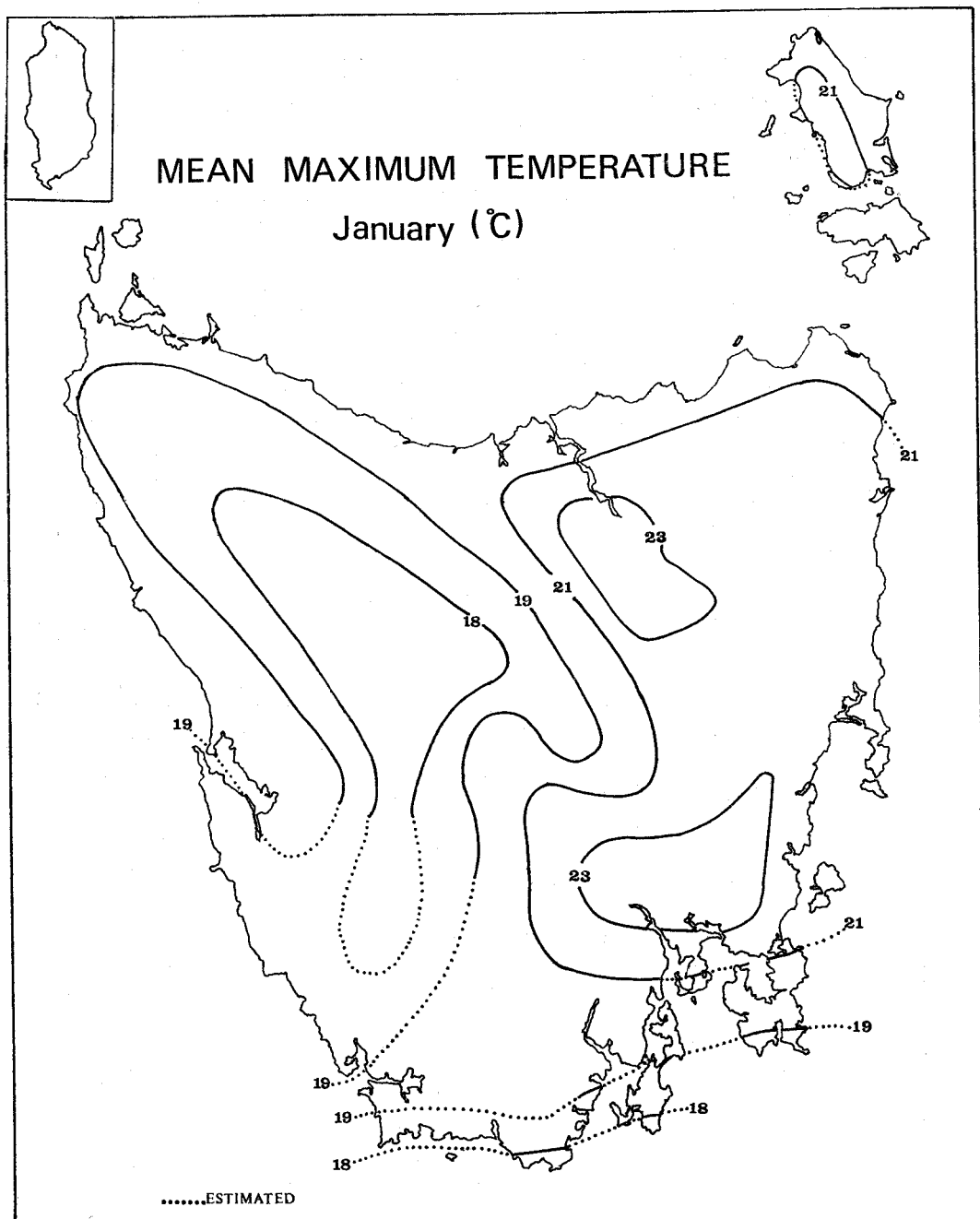
The highest average wind speeds are associated with extensive deep depressions over ocean areas south of Tasmania.

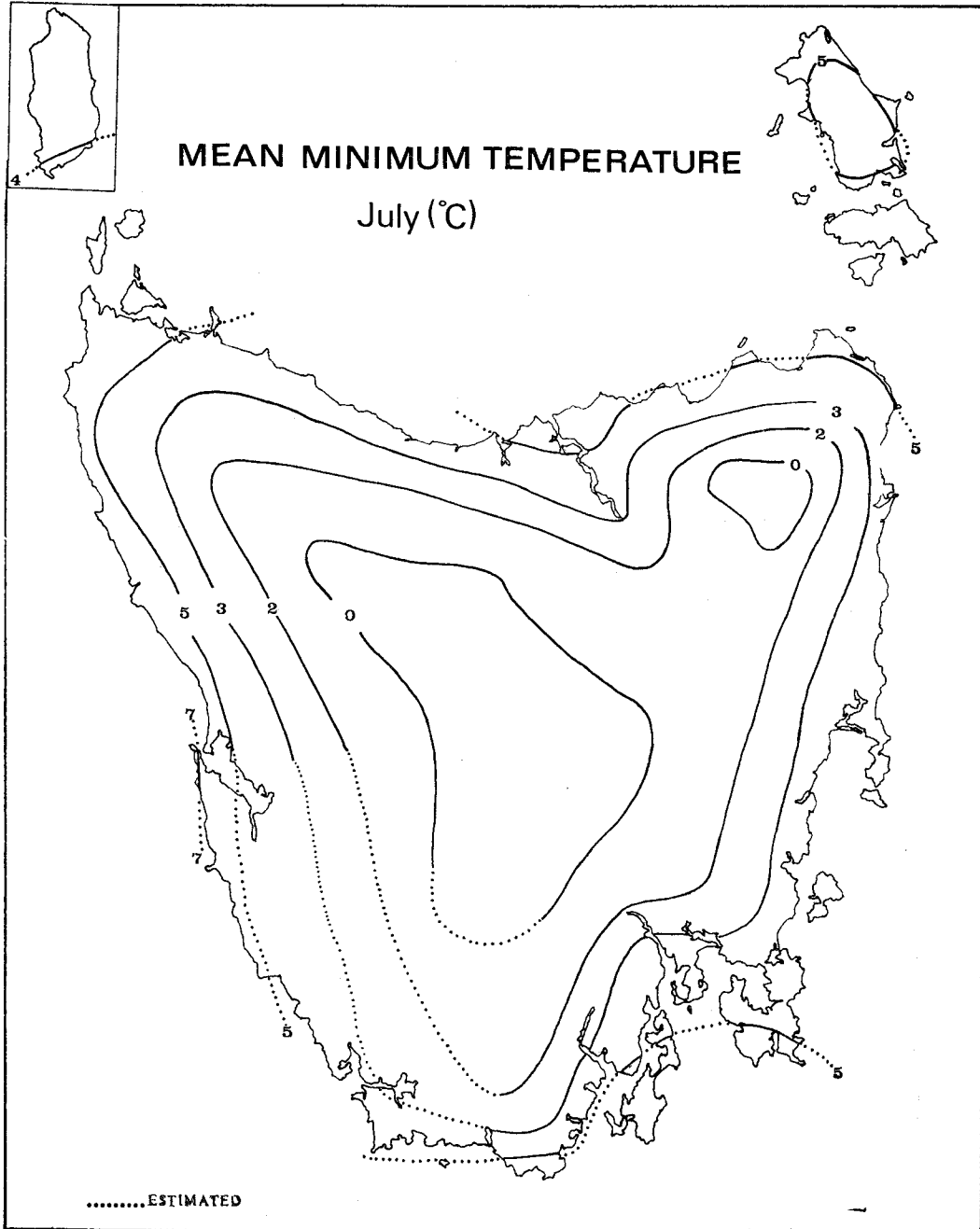
### Temperature

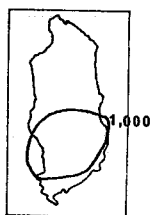
Sea level temperatures are reduced by approximately  $1^{\circ}\text{C}$  for each 100 metres of altitude. Hence in a mountainous island like Tasmania the isotherms (lines of equal temperature drawn on a map) will be much influenced by topography. Greater cloud cover over the western half, a result of the persistent westerlies, further decreases day-time temperatures in the west, while the Föhn effect warms and dries the westerly airstreams as they descend to the Midlands, the east coast and south-east districts.

Frosts are affected markedly by topography, the valleys acting as natural channels for the drainage of cold air at night. Widespread severe frosts are experienced in winter on the Central Plateau and in upland valleys. Inland centres below 300 metres are virtually frost-free only in summer, while the north coast, the east and south-east have few frosts after early October. Above 300 metres there is no frost-free month.

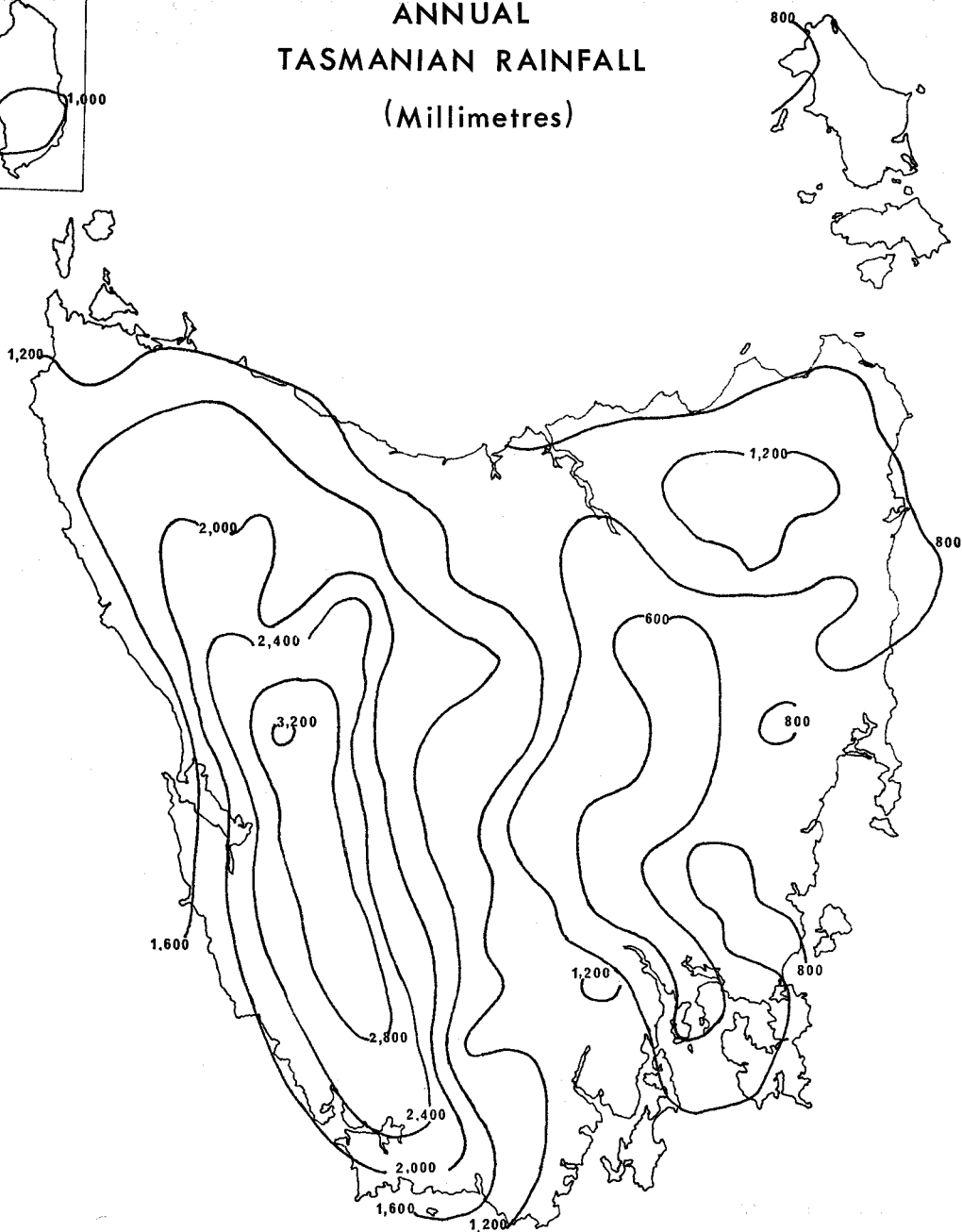
Tasmania only occasionally experiences the extremes of temperature common to the other states. High temperatures recorded in the east and south-east of Tasmania generally occur on the last day of a warm spell during which a dry air mass







ANNUAL  
TASMANIAN RAINFALL  
(Millimetres)



of mainland origin is advected over the State, from a direction between north and north-west. Some cooling in the lower air layers over the waters of Bass Strait prevents the northern coast from reaching the higher temperatures that are experienced in the south under these conditions. The highest temperature recorded in Tasmania was 40.8°C at Bushy Park in December 1945. The lowest temperature recorded was -12.8°C at Oatlands in May 1902.

The recorded extremes of temperature for Hobart are 40.7°C in December 1897 and -2.8°C in June 1972. Readings above 37.8°C or below -1.1°C are rare, the mean maximum temperature in summer being 21.1°C and the mean minimum in winter, 4.9°C.

The mean maximum temperature for January and the mean minimum temperature for July over Tasmania are shown in two of the preceding maps. The mean maximum is the average of daily maxima for January; the mean minimum the average of daily minima for July.

### Rainfall

Tasmania's position on the northern edge of the 'Roaring Forties' (a westerly air-stream), its exposure to this stream and the mountainous nature of the terrain are the controlling influences on the amount, distribution and reliability of the State's rainfall.

In the west, average annual rainfall ranges from 1 300 to 1 500 mm on the coast to 3 600 mm at Lake Margaret; in the north-east, from 550 mm on the coast to 1 300 mm on the highlands; while rainfall in the north-west ranges from 900 mm near the coast to 1 750 mm in the higher inland areas.

Extreme three to five-day rainfalls occur most often on the west coast in late June when the westerlies are increasing in strength and persistence and the sea temperature is well above the land temperature. In the north, short periods of extreme precipitation occur when wind flow is sustained for up to two days from the north-east, usually in mid to late autumn. The high moisture content of such streams from over the relatively warm waters of the Tasman Sea results in heavier, if less prolonged, rainfall than is produced in the westerly streams.

There is a strong gradation in rainfall from west to east, because of topography, with a distinct rain shadow east of the Central Plateau. Parts of the Midlands average less than 500 mm per year. Totals in the east and south-east are higher (up to 1 000 mm on exposed slopes).

Rainfall is least reliable in the east, south east, Midlands and Derwent Valley. These areas are driest when, respectively, westerlies are relatively absent or at their strongest i.e. late summer and late winter. Highest rainfall in these areas tends to occur in autumn and spring, under the influence of small cyclonic depressions off the east coast.

Effective rainfall is the amount necessary to compensate for evaporation, begin germination and maintain plant growth above wilting point. Average rainfall is sufficient for this purpose from May to September. From October to January the chance of receiving effective rainfall decreases, except in the west and north-west, where the probability is usually better than 50 per cent. In the Midlands, the Derwent Valley, the south-east and east, and in the northern inland, the chance of receiving at least effective rainfall during the summer months is very small.

The average annual rainfall distribution over Tasmania is shown on the preceding map.



### **Snow and Hail**

Snow and hail can be experienced over the highlands at any time of the year. Heaviest snowfalls occur, as a rule, in late winter and spring, and less frequently in June and July. Extensive snow below 150 metres occurs, on the average, less than once every two years, associated with an unusually vigorous outbreak of cold air from Antarctic regions. There is no permanent snowline, but patches of snow often remain on the highest peaks till December.

Hail is most likely in spring, though possible in any month. Hail storms are a big risk to fruit crops in the Huon Valley and on the Tasman Peninsula and sometimes cause extensive damage.

### **Thunderstorms**

These are most common in the north and north-west of the State and are associated with the lifting of warm moist air by a cold front. Thunderstorms occur mainly in the summer months. Hobart and Launceston average five to seven storms per year, and the north and north-west, 10 to 15. The Central Plateau and north-eastern highlands report, on average, about five storms per year, while the Midlands, as gauged by Oatlands, has less than three.

### **Floods**

In Tasmania the river system most affected by flooding is the South Esk. The Esk catchment includes most of the north-eastern highlands, where annual rainfall averages about 1 300 mm, and part of the Western Tiers where run-off can be rapid. As many rivers in the South Esk system flow through flat country, flooding can be widespread and disruptive.

Flooding of the Derwent River system can be extensive but is less frequent than in the South Esk. The most severe flood on record in the Derwent occurred in April 1960 with the peak discharge flow recorded as 3 400 cumecs (cubic metres per second) at Macquarie Plains. However, it is most unlikely that flooding of this severity will again occur on the Derwent due to the completion of 4 dams across the River since 1960 by the Hydro-Electric Commission.

Flooding of rivers in the west and south of the State can be of greater frequency than in the Derwent and Esk systems but because of mountainous terrain and lack of population these pass mostly unnoticed. Similarly the short fast-flowing rivers of the east coast flood and fall rapidly, but can cause damage and disruption of road systems.

On two occasions in 1974 torrential rain caused severe flooding in the north-east of Tasmania. There was widespread damage to property, serious damage to road systems and high stock losses in the floods which occurred less than two months apart.

In the north and north-west of Tasmania many rivers have their catchments along the northern edge of the Central Plateau and can flood quickly.

### **Humidity**

The mean relative humidity at both 9.00 a.m. and 3.00 p.m. exceeds 50 per cent at all stations in all months of the year. Relative humidity is generally higher in the morning than in the afternoon, and higher in coastal regions than inland. Days of high temperature combined with uncomfortably high humidity are rare. In the east and south-east, warm dry winds from a west or north-west direction may occasionally have a relative humidity as low as 10 per cent.





*Quamby, Hagley—Once the home of Sir Richard Dry*





*Road to Waldbeim Chalet, Cradle Mountain*

*[Greg Mace, 'The Advocate', Burniel]*



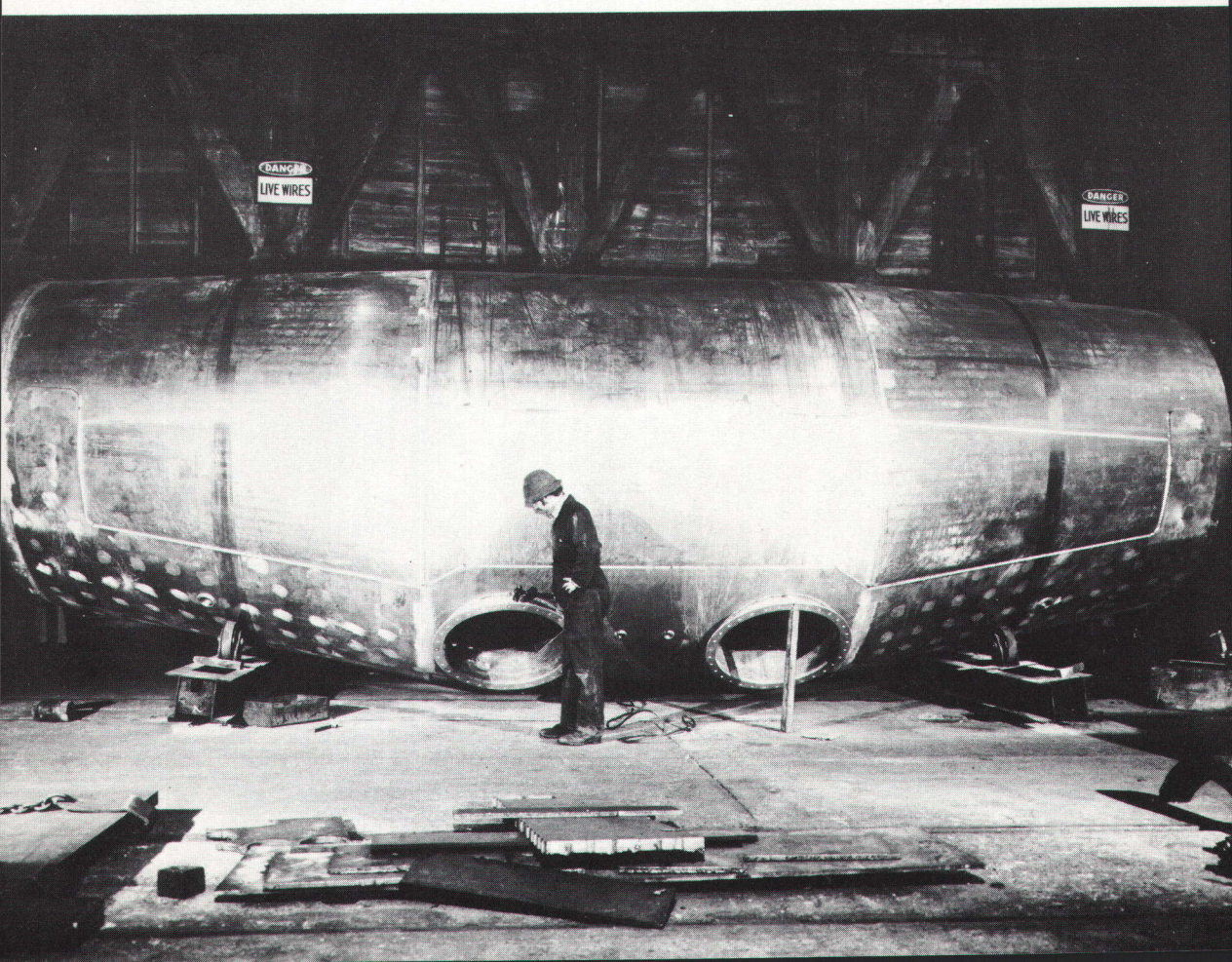


*North-East Coast scene*

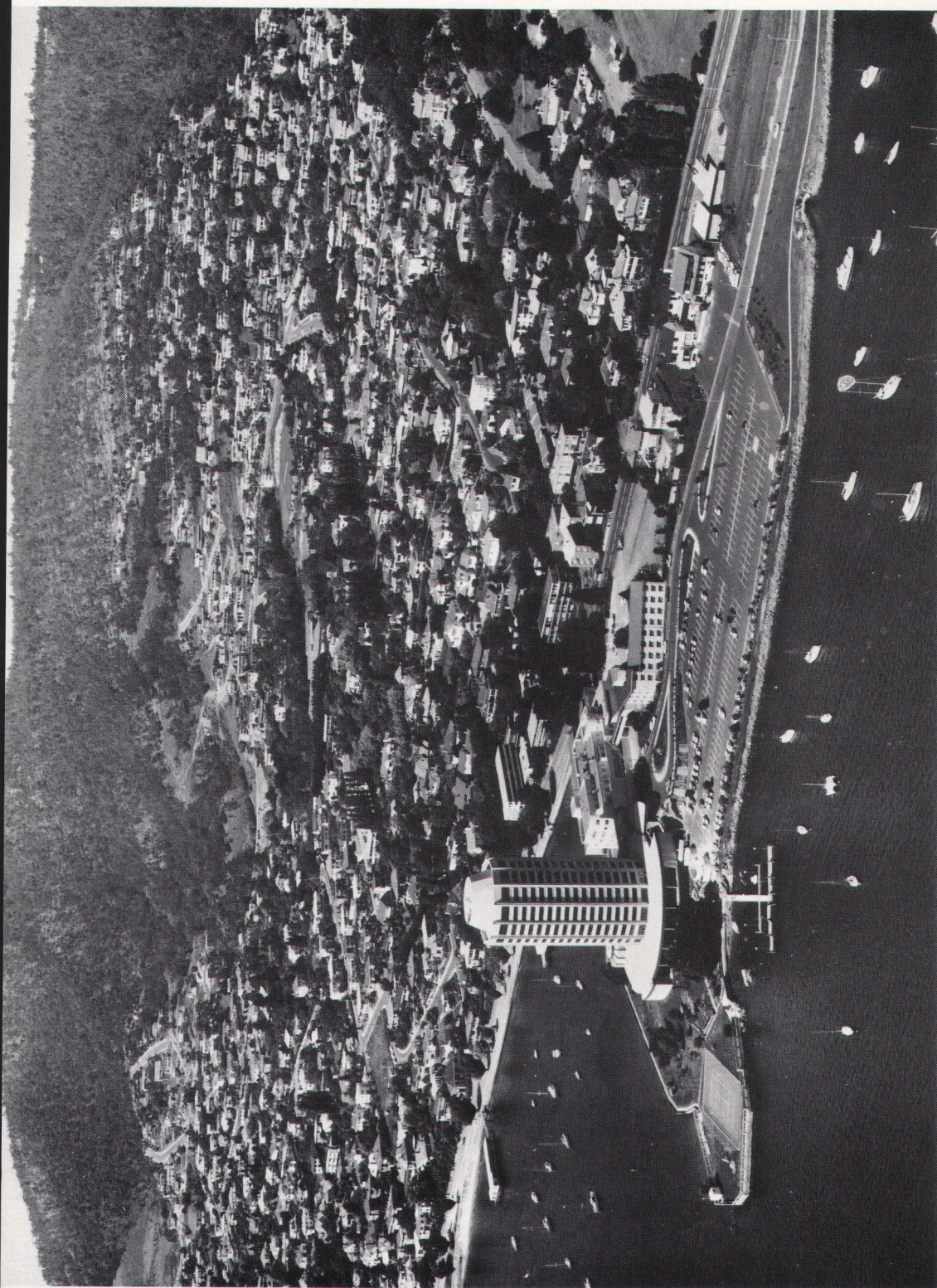
*[Dept of Film Production]*

*Bulk carrier under construction, railway workshops, Launceston*

*[Dept of Film Production]*







*Wrest Point Casino and Sandy Bay, Hobart*

*[Dept of Film Production]*



### Droughts and Bushfires

Although Tasmania has the highest average rainfall of any state in Australia drought conditions are not unknown. Unlike the remainder of Australia droughts in this State tend to be highly localised and of reasonably short duration. The most severe effects are usually felt over a period of only a few months, but serious rainfall deficiencies can extend over a period of two or three years. Prior to 1972 the most severe long term droughts occurred during the periods 1888-1889, 1897-1898, 1918-1920, 1933-1934, 1945-1946, 1949-1952 and 1967-1969. During the 12 month period ended January 1973 record low rainfall was recorded in the Midlands, East Coast and Northern rainfall districts. All other rainfall districts experienced below normal rainfall during 1972. (Not one of the nine districts' rainfall exceeded 85 per cent of normal during 1972.) Some relief from the drought conditions was given by reasonable rainfalls during February 1973.

Serious bushfires occurred in 1898, 1915, 1946, 1951 and 1967. The bushfires of 7 February 1967 were the most severe in the State's history causing 62 deaths and damage to property estimated to be in excess of \$25m.

### Evaporation

Evaporation depends mainly on wind strength, the moisture deficit of the airstream and on sunshine. The World Meteorological Organisation has asked for standardisation of measurement of evaporation by use of the Class 'A' pan (a galvanised pan, 1.22 metres in diameter and 25.4 centimetres deep) which gives higher figures for evaporation than those obtained from the containers previously used in Australia (class 'A' pan figures should be multiplied by a factor of about 0.80 to obtain the average potential evapo-transpiration likely for Tasmanian crops). The map on the following page gives details for mean average evaporation.

At Launceston Airport the annual evaporation is just over 1 500 mm due largely to the prevalence of winds coming from the Western Tiers, which become warmer and drier in their descent to the lower Midlands and Tamar areas, thus increasing evaporation. Monthly evaporation at Launceston Airport has ranged as high as 270 mm in summer but drops to between 25 and 40 mm in winter. This area of high evaporation extends southward to the lower Derwent and Huon areas. The lowest evaporation rate occurs in the Central Plateau, West Coast Ranges and south-west areas where evaporation may fall to less than 750 mm. This is due to the high moisture content of the prevailing westerlies and the high average cloud cover. In these areas the monthly evaporation rate may range from about 125 mm in January to only 12 mm in June and July.

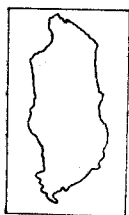
Another area of low evaporation (below 1 000 mm a year) is located in the North-East Highlands.

### Sunshine

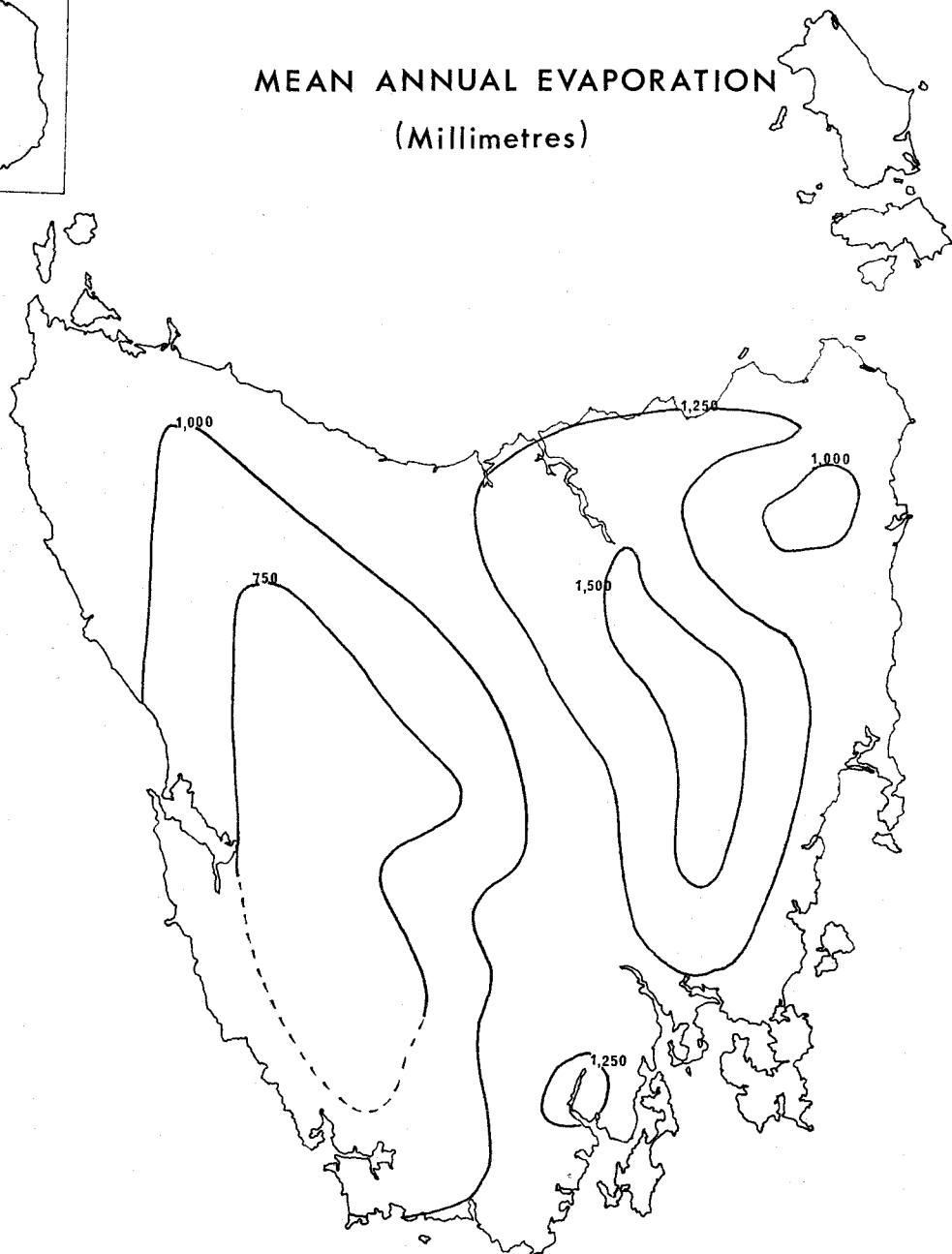
The average number of hours of sunshine a year ranges from about 2 500 hours in the northern Midlands to less than 1 750 hours on the west coast and western highlands, this area having the least amount of sunshine in Australia. Hobart averages 2 100 hours per year and Launceston around 2 400.

In January daily averages of sunshine range from nine hours per day between the Midlands and Launceston to six hours per day on the west and south coasts. In mid-winter, average daily sunshine is down to a maximum of three hours on the east coast and to considerably less on the west coast and highlands.





MEAN ANNUAL EVAPORATION  
(Millimetres)



### The Climate of Hobart

*Temperatures:* Mean maximum temperature exceeds 21°C in January and February. On average there are two or three days per year with maximum temperatures greater than 32°C. Only once, in February 1968, have three successive days over 32°C been recorded in Hobart. Minimum temperatures below -1.1°C are rare.

*Rainfall:* There is a strong gradient of rainfall, immediately west of Hobart suburbs, caused by the bulk of Mt Wellington. On the south-eastern slopes of the mountain the annual rainfall reaches 1 400 mm (at The Springs and The Gap) while at Fern Tree the annual average is 1 140 mm. The rainfall decreases to about 600 mm in the city area, the annual average being 620 mm at the Regional Office of the Bureau of Meteorology. Some eastern shore suburbs receive as little as 500 mm of rain per annum.

Monthly totals are fairly uniform. The wettest twelve months on record at the Bureau's Hobart Office yielded 1 100 mm (to December 1916) and the driest, 320 mm (to November 1943).

*Relative Humidity:* Highest humidity is at the time of lowest temperature, in the early morning during winter. As temperatures rise to 3 p.m., humidity decreases by 15-20 per cent. The seasonal variation is not great, although the average humidity during the winter months is 70 to 75 per cent and during the summer months 58 per cent. Periods of high humidity combined with high temperatures are rare.

*Fog:* Fogs occur in the city about four times per year, in the cooler months, but are more frequent over and near the Derwent River, down which they are often carried on a light north-west wind. Fog frequency is far less than either that of Launceston or Melbourne.

*Wind:* The main wind direction is north-west, induced by the orientation of the Derwent Valley. Next in importance is the sea-breeze (from south or south-east) during summer months.

The strongest wind gust experienced in Hobart was 149 km/h recorded during a storm in September 1965.

*Snow and Hail:* Snow below 300 metres occurs, on the average, less than once per year. Falls lying in the centre of the city, almost at sea level, have occasionally been recorded, the last being in September 1970. Snow generally lies on Mt Wellington during winter and early spring months, but it is rare between November and March. Hail occurs about four times a year, mainly between September and November.

*Frost:* The average annual frequency of days of frost is 31, mostly from June to August. None has been recorded in January. Cold air drainage is found in the hilly suburbs and frosts are common on the valley floors.

*Sunshine and Cloud:* No marked seasonal variation of cloud amount occurs but a strong dependence on time of day is evident. During April to September cloud cover is greater in the afternoon and from October to March it is greater in the morning.

A clear-cut seasonal variation in monthly average hours of sunshine also occurs with amounts varying from 231 hours in January to 111 hours in June.

*Climatic Data:* The next table gives the main climatic data for Hobart during the year 1974 on a monthly basis:

## Hobart Weather in 1974

Month	Shade temperature				Mean daily hours of sunshine	Rainfall	
	Mean maxima	Mean minima	Extremes			Total in 1974	Long-term average
			Maximum	Minimum			
	°C	°C	°C	°C	hours	mm	mm
January .. ..	23.4	13.0	35.0	7.2	9.9	9	49
February .. ..	21.5	13.3	30.8	9.0	7.0	44	42
March .. ..	21.2	12.8	30.6	7.0	6.1	43	46
April .. ..	16.6	10.3	20.7	6.3	3.0	101	56
May .. ..	14.7	7.7	22.0	1.9	4.5	24	49
June .. ..	13.1	6.0	17.6	2.6	3.8	85	59
July .. ..	11.4	5.1	16.1	0.5	3.4	158	54
August .. ..	13.1	5.2	17.2	0.9	5.0	25	49
September ..	14.3	6.5	19.9	1.7	4.2	58	52
October ..	17.1	8.3	24.8	3.9	6.8	34	63
November ..	17.7	8.9	25.7	4.6	7.2	51	56
December ..	20.9	11.5	28.4	6.7	8.0	64	58
Total for year	..	..	..	..	..	696	633

## The Climate of Launceston

Being over 50 km from the coast, Launceston exhibits a slight continental effect—greater seasonal and daily variations of temperature and lower rainfall as compared with stations on the coast.

*Temperature:* Average maximum temperature exceeds 24°C in January and February, 21°C in December and March, and 13°C in June and July. Average minimum is about 11°C in summer, falling below 4°C in winter. Freezing temperatures are common during winter mornings, the lowest recorded being -6°C. Up to 50 frost days are to be expected in a year, mostly from May to August. Light frosts may occur in summer.

*Rainfall:* The annual average is 736 mm. The wettest month is July (86 mm) while January and February, the driest months, each receive less than half this amount. The wettest month on record is August 1936 (254 mm). Annual totals range from 467 mm (1908) to 1 057 mm (1946). Some severe thunderstorms are experienced. Snow does not settle in Launceston, but falls occur on surrounding hills.

*Relative Humidity:* Seasonal and daily variations are similar to those for Hobart but the daily readings are 5 to 10 per cent higher.

*Fog:* Occasions of high humidity, associated with moist north-east airstreams, are relatively frequent. Fog occurrence averages more than 30 days a year, mostly between May and August.

*Winds:* The NW-SE orientation of the Tamar Valley has a marked effect on surface winds, which conform mainly to these directions. The north-west wind is often reinforced in the afternoon by a sea-breeze from much the same direction. Strong winds are most common during the colder half of the year and severe squalls can occur in association with thunderstorms.

### Rainfall at Selected Stations and in Districts

The following table shows annual rainfall figures for selected stations:

Annual Rainfall at Representative Stations  
(Millimetres)

Station	1970	1971	1972	1973	1974	Long-term averages (a)
Avoca .. ..	842	859	410	583	735	558
Beaconsfield .. ..	1 094	1 298	679	1 305	1 271	954
Burnie (APPM) .. ..	991	1 218	670	1 260	1 214	1 003
Campbell Town .. ..	697	608	346	613	599	545
Cygnnet .. ..	1 118	1 081	631	841	907	860
Cradle Valley .. ..	3 293	3 097	2 426	3 352	2 984	2 777
Deloraine (Ashley) .. ..	1 107	1 225	641	1 386	1 241	968
Franklin .. ..	1 113	1 033	776	817	941	908
Hobart (Weather Bureau) .. ..	782	752	451	605	696	633
Hobart (Airport) .. ..	704	662	381	557	655	569
Kettering .. ..	1 057	1 057	606	777	921	882
Launceston (Airport) .. ..	832	938	409	850	873	719
Lilydale .. ..	1 181	1 357	641	1 228	1 202	976
Longford .. ..	789	930	432	867	813	680
Maydena .. ..	1 419	1 205	1 034	1 308	1 207	1 224
New Norfolk .. ..	597	685	409	547	559	555
Oatlands .. ..	750	675	397	609	610	569
Queenstown .. ..	2 583	2 543	2 205	2 734	2 400	2 532
Ringarooma .. ..	1 499	1 562	899	1 487	1 528	1 232
Savage River .. ..	<i>n.a.</i>	<i>n.a.</i>	1 678	2 068	1 886	1 995
Smithton .. ..	1 346	1 452	873	1 345	1 223	1 103
Springfield South .. ..	1 633	1 766	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	1 271
St Helens .. ..	1 135	985	504	787	1 016	781
St Marys .. ..	1 570	1 386	536	1 023	1 909	1 019
Swansea .. ..	954	788	364	600	830	618
Triabunna .. ..	1 049	1 020	422	658	918	663
Ulverstone .. ..	1 093	1 228	649	1 270	1 214	965

(a) Number of years of record used to calculate the long-term average varies from station to station.

### Rainfall in Districts

(Index showing actual rainfall for each year expressed as a percentage of normal (a) rainfall)

Period	Meteorological district							
	Northern	King Island	Central Plateau	Midlands	Derwent Valley	South-east	East Coast	West Coast
1972 .. ..	63	79	89	63	90	76	60	91
1973 .. ..	115	109	116	110	114	105	94	112
1974 .. ..	119	103	106	121	108	116	129	97

(a) Normal rainfall is the mean for the 62-year period 1913-1974.

### Seasonal Temperatures

The mean temperature for any locality can give a false impression, e.g. a mean temperature of 25°C based on a maximum of 50°C and a minimum of 0°C, all in the one day. A better way of examining a locality's climate is to take the maximum temperature each day and average these readings for each season; similarly, to take the minimum temperature each day and average these readings for each season. These mean maxima and mean minima then give an indication of the daily variation that may be expected. The following table shows the mean maximum and mean minimum temperatures for nine selected stations in summer, autumn, winter and spring.

*Physical Environment***Temperatures at Selected Stations, 1974  
(°C)**

Station	Maximum temperatures		Minimum temperatures		Mean temperatures	
	Mean for season (a)	Departure from normal	Mean for season (b)	Departure from normal	Mean for season	Departure from normal
SUMMER (December to February)						
Hobart .. .. .	22.0	+0.8	13.0	+1.7	17.5	+1.2
Launceston .. .. .	24.6	+0.7	11.7	+0.8	18.2	+0.8
Cape Bruny .. .. .	19.5	+2.0	12.6	+1.8	16.1	+1.9
Devonport .. .. .	22.0	+0.8	12.6	+1.1	17.3	+1.0
Maydena .. .. .	22.5	+1.6	9.4	+1.4	16.0	+1.5
Oatlands .. .. .	21.0	-0.1	8.8	+0.9	14.9	+0.4
St Helens .. .. .	21.6	-0.3	12.2	+1.2	16.9	+0.5
Savage River .. .. .	19.9	+1.1	10.9	+1.5	15.4	+1.3
Zeehan .. .. .	21.5	+2.1	10.1	+1.2	15.8	+1.7
AUTUMN (March to May)						
Hobart .. .. .	17.5	-0.4	10.2	+1.6	13.9	+0.6
Launceston .. .. .	19.4	+0.7	8.7	+1.3	14.1	+1.0
Cape Bruny .. .. .	16.7	+1.5	10.9	+1.6	13.8	+1.6
Devonport .. .. .	19.2	+1.7	10.1	+1.3	14.7	+1.5
Maydena .. .. .	16.8	+1.1	6.0	+0.9	11.4	+1.0
Oatlands .. .. .	15.9	+0.1	6.1	+1.1	11.0	+0.6
St Helens .. .. .	19.2	+1.1	10.3	+2.8	14.8	+2.0
Savage River .. .. .	16.1	+1.5	9.0	+1.9	12.6	+1.7
Zeehan .. .. .	17.9	+2.1	7.1	+0.1	12.5	+1.1
WINTER (June to August)						
Hobart .. .. .	12.5	+0.6	5.4	+0.7	9.0	+0.7
Launceston .. .. .	12.9	+0.3	3.3	+0.2	8.1	+0.3
Cape Bruny .. .. .	11.8	+0.5	6.8	+0.7	9.3	+0.6
Devonport .. .. .	13.6	+0.9	4.7	+0.2	9.2	+0.6
Maydena .. .. .	10.3	+0.7	2.1	+0.7	6.2	+0.7
Oatlands .. .. .	9.5	-0.8	2.3	+0.7	5.9	-0.1
St Helens .. .. .	14.0	+0.2	4.8	+1.6	9.4	+0.9
Savage River .. .. .	10.1	+0.4	4.2	+0.5	7.2	+0.5
Zeehan .. .. .	12.0	+0.8	3.0	-0.6	7.5	+0.1
SPRING (September to November)						
Hobart .. .. .	16.4	-0.4	7.9	+0.4	12.2	0.0
Launceston .. .. .	17.2	-0.8	6.5	-0.3	11.9	-0.6
Cape Bruny .. .. .	14.3	-0.5	8.4	+0.8	11.4	+0.2
Devonport .. .. .	16.1	-0.5	7.3	+0.2	11.7	-0.2
Maydena .. .. .	14.6	-0.3	4.4	+0.4	9.5	+0.2
Oatlands .. .. .	14.2	-1.3	4.5	+0.2	9.4	-0.6
St Helens .. .. .	16.7	-0.9	7.1	+0.6	11.9	-0.2
Savage River .. .. .	13.2	+0.3	6.2	+1.2	9.7	+0.8
Zeehan .. .. .	14.3	-0.6	5.9	+0.1	10.1	-0.3

(a) Average of maximum daily temperatures for season.

(b) Average of minimum daily temperatures for season.

### Rainfall in Districts

Tasmania is divided into nine meteorological districts (not to be confused with statistical divisions) with fairly well-defined land use patterns appropriate to each. The following table shows rainfall totals of each district for the past 10 years:

**Rainfall of Tasmania in Districts  
(Millimetres)**

Period	Northern		King Island	Central Plateau	Midlands
	Agriculture, dairying and mixed farming			Grazing (mainly sheep)	
1965 .. .. .	793		906	910	466
1966 .. .. .	803		975	875	545
1967 .. .. .	657		754	768	353
1968 .. .. .	1 120		1 069	1 254	467
1969 .. .. .	972		924	1 111	598
1970 .. .. .	1 074		957	1 373	721
1971 .. .. .	1 218		1 184	1 160	645
1972 .. .. .	636		746	877	351
1973 .. .. .	1 154		1 031	1 137	611
1974 .. .. .	1 192		969	1 041	672
District average (a) ..	1 004		944	983	555

**Rainfall of Tasmania in Districts—continued  
(Millimetres)**

Period	Derwent Valley	South East	East Coast	West Coast	Flinders Island
	Fruit growing, grazing, forestry		Dairy farming	Mining	Grazing
1965 .. .. .	558	700	659	2 361	640
1966 .. .. .	645	783	734	1 988	666
1967 .. .. .	512	641	573	1 838	630
1968 .. .. .	738	725	560	3 168	673
1969 .. .. .	735	881	1 024	2 423	814
1970 .. .. .	826	989	1 228	2 533	1 023
1971 .. .. .	891	945	1 021	2 460	950
1972 .. .. .	610	568	497	2 122	583
1973 .. .. .	775	786	779	2 605	871
1974 .. .. .	734	868	1 071	2 260	906
District average (a) ..	680	751	828	2 328	747

(a) Long-term annual average based on 60 years of record.

## ENVIRONMENTAL CONTROL

### Department of the Environment

Established in October 1972, the Department of the Environment is headed by a director of Environmental Control who is responsible to the Minister for the Environment. At the beginning of 1975 the Department had a staff of 22 persons to carry out the task of environment protection. The staff included a number of scientific experts who were responsible for particular aspects of pollution control and assessment—chemists, air and water pollution officers and a waste management officer.



The *Environment Protection Act 1973* gave the Director the general duties of: (i) protecting the State's environment; (ii) ensuring the control or prevention of any act or emission which causes or may lead to pollution; and (iii) co-ordinating all necessary activities (government or private) to protect, restore or improve Tasmania's environment. In addition to the general duties the Act also conferred the following more specific functions on the Director: (i) consider means and initiate steps for the protection of the environment and for the prevention, control, abatement or mitigation of pollution; (ii) carry out investigations into environmental protection problems; (iii) obtain advice from experts in the field of environmental protection; (iv) review progress made in attaining objectives of the Act and publicise steps taken to protect the environment; (v) advise on pollution standards and methods of sampling and testing for pollutants; and (vi) promote and co-ordinate planning projects for environmental protection.

Staff of the Department of the Environment have visited most areas of Tasmania either monitoring or investigating complaints and pollution problems. Departmental officers have attended interstate seminars and conferences and visited other environment protection authorities for instruction and familiarisation courses. The Department participates in the work of the Australian Environment Council and has staff on a number of the Council's committees. In addition the Department is also represented on committees of The National Health and Medical Council, The Australian Transport Advisory Council, Australian Water Resources Council and The Keep Australia Beautiful Council. The Department is also represented on State government inter-departmental committees which deal with environmental matters. Environmental seminars and lectures have been organised by the Department and special papers dealing with the environment written.

### **Environment Protection Advisory Council**

The 1973 legislation also provided for the creation of the Environment Protection Advisory Council. Under the chairmanship of the Director of Environmental Control the Council has members drawn from government and private sectors and representing a number of diverse interests e.g. the mining, secondary, rural and forestry industries, conservation groups, Hydro-Electric Commission, trade unions, public health, etc. The Council's task is to advise the minister and make recommendations to the Government on environmental matters. The Council is empowered to appoint committees to investigate specific subjects. Five such sub-committees had been appointed by 1975—Noise Sub-committee, Waste Sub-committee, Air Sub-committee, the Water Sub-committee and methods of Analysis Sub-committee. A working party to deal with questions relating to analysis and testing samples for pollutants had also been established.

## **LAGOON OF ISLANDS**

*(A freelance opinion and case history (a) contributed by Dr P. A. Tyler, Botany Department, University of Tasmania)*

### **Introduction**

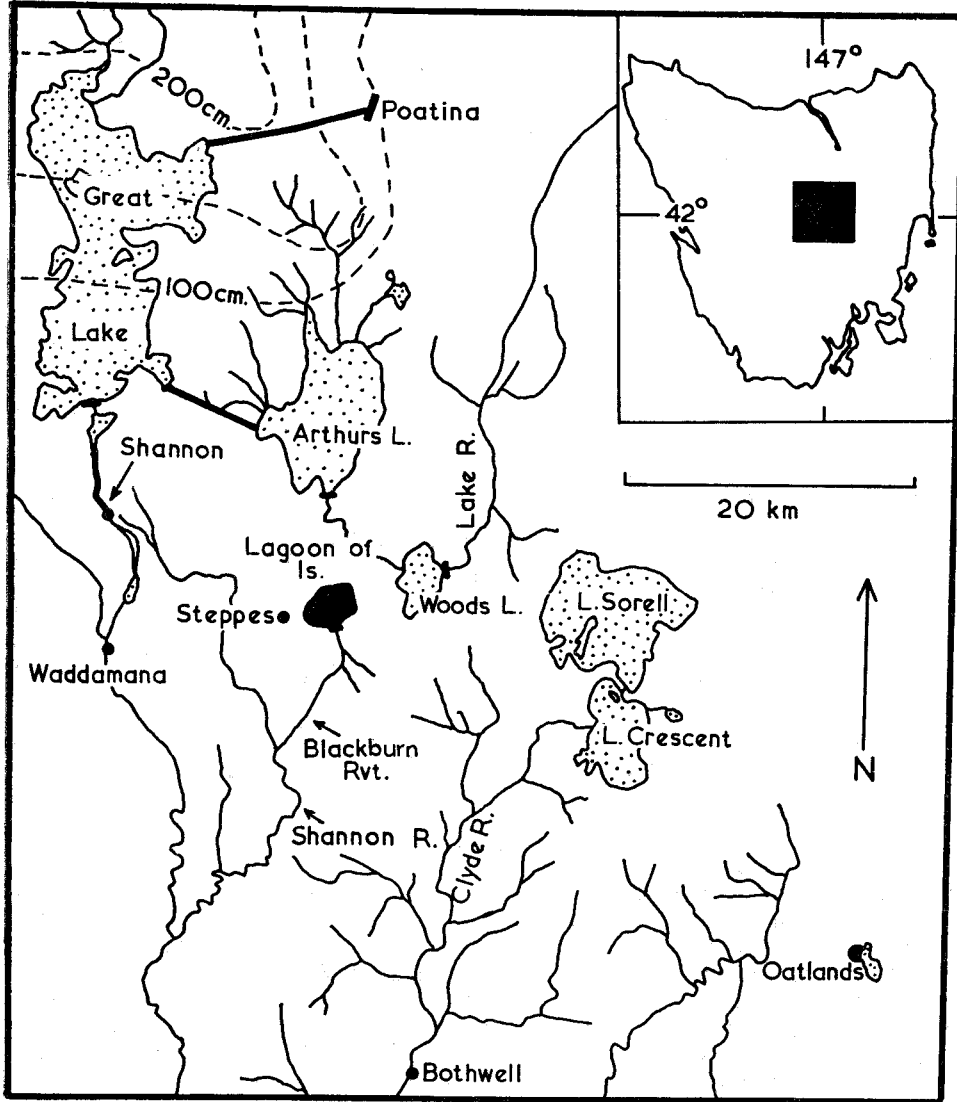
The angry controversy over the damming of Lake Pedder was the biggest conservation issue in Tasmania. During the Pedder affair a smaller conservation issue in the Central Plateau went largely unnoticed. Lagoon of Islands, near Steppes, was dammed to provide a minor water storage and a fishery. While

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(a) Previously published in different format. Permission to reproduce figures kindly given by Applied Science Publishers, Barking, Essex, England.

Lake Pedder and its environs held considerable scientific interest, far greater value lay in their aesthetic and recreational magnificence. Lagoon of Islands had scant aesthetic appeal, but a wealth of ecological significance—it was a truly unique ecosystem.

The lagoon is a partly filled-in lake basin lying on Jurassic dolerite on the Central Plateau (Fig. 1), at an altitude of about 700 m. It is closely surrounded by low hills, limiting the catchment to 3.56 km<sup>2</sup> (Fig. 2), a quarter of which is the lagoon surface. The basin's origin is uncertain. It lies beyond areas of known glaciation, but sand dunes along the eastern margin suggest that it may have been formed by erosion of a sandstone block.



**FIGURE 1 LAGOON OF ISLANDS: LOCATION**

(Map of central portion of Tasmania, showing Lagoon of Islands, hydro-electric developments and isohyets.)

The state of botanical and ecological description of Tasmania was such that the unique features of the Lagoon of Islands were not known or publicised before the early 1960's, when a dam was proposed. Later work has shown the unusual nature of ecological events in the partly-endemic plant communities of the lagoon, but the building and subsequent filling of the dam is now causing the destruction of the ecosystem.

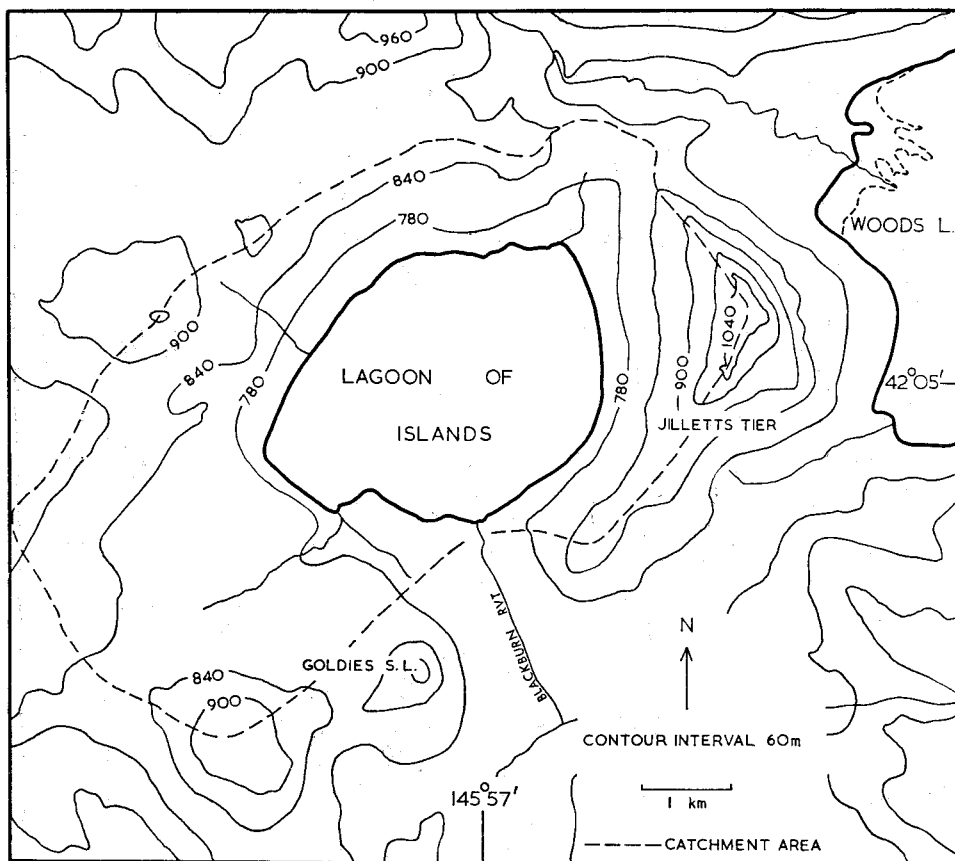


FIGURE 2 LAGOON OF ISLANDS: CATCHMENT AREA

### Unique Plant Communities

Before flooding, the lagoon was covered by a floating mat of reeds whose interlacing rhizomes formed a meshwork firm enough to allow a man's cautious passage. Borings revealed an underlying stratum of peaty water about 2 m deep, and notices erected by the Northern Tasmanian Anglers Association warned anglers against wading. The peaty water beneath the mud gradually solidified to an equal depth of banded peat, alternating at the base of the core with bands of grey lake mud, and terminating in gravels (Fig. 3A). Carbon dating of the lower-most peat stratum indicated an age of about 5 000 years.

The surface mat was composed of the rhizomatous reeds *Chorisandra cymbaria* R. Br. and *Baumea rubiginosa* (Spreng.) Noeck (= *Cladium glomeratum* R. Br.). Usually, 0.1-0.5 m of water overlay the bases of the reeds. Dotted about this

mat were numerous islands of various sizes, the larger ones bearing shrubs and even trees (Plate 1). The smallest islands were mere tussocks of pale yellow sedge (*Carex appressa* R. Br.) supporting a few herbaceous plants and one or two young bushes of ti-tree (*Leptospermum lanigerum* Sm.) or bottlebrush (*Callistemon viridiflorus* (Sims.) D.C.). Larger islands were more massive, with many of the two bush species; the largest islands carried 50-100 bushes and in some cases a number of *Eucalyptus* trees up to 10 m high. The larger islands were surrounded by a pool of water, like a moat (Plates 1, 3). The range in size and floristic composition of the islands clearly suggested that some were younger than others, the small tussocks with few bushes eventually growing into larger islands covered with bushes and trees.

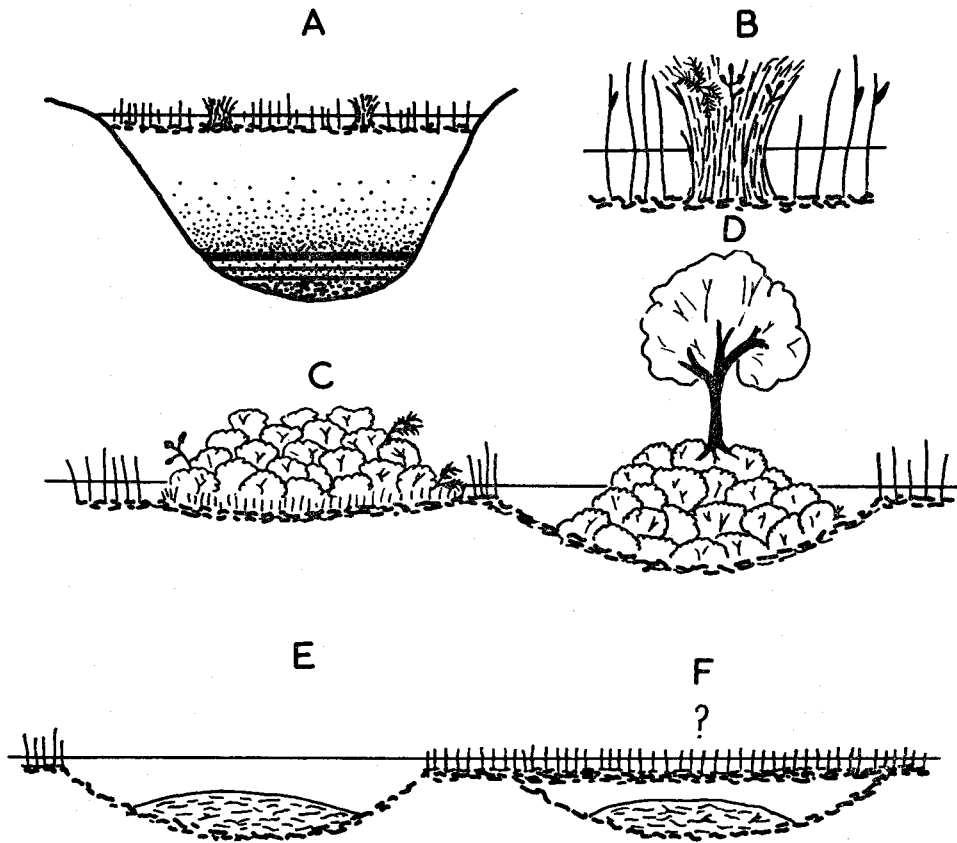


FIGURE 3 THE PROCESS OF ISLAND BUILDING

(Diagrams showing process of island-building in Lagoon of Islands: (A) Cross section of the basin showing rhizomatous mat with small islands and underlying water and peat with banded lake muds at the base. (B) Caespitose sedge *Carex appressa* raises soil above water level and terrestrial angiosperms colonise the tussock. (C) As the island spreads, bushes of *Leptospermum* and *Callistemon* contribute to the island-building. (D) Eventually, trees (*Eucalyptus* sp.) colonise some islands and the increasing weight depresses the rhizomatous mat forming a moat of water around the island. (E) Waterlogging leads to death of the island. Woody remains of former islands can be found at the base of open pools. (F) Presumably, the rhizomatous reeds recolonise the pools.)

From the types of island present over the surface, it was possible to reconstruct the likely sequence of events (Figs 3B-F). At points on the reed mat a caespitose sedge (*Carex appressa*) became established and, often assisted by *Restio tetraphyllus* Labill., formed a tussock which spread laterally, so accumulating soil above the level of water overlying the reed bases. The accumulating soil allowed colonisation by herbaceous plants and, eventually, perennial shrubs (Plate 2). The accumulating weight of a growing island depressed the reed mat, forming a moat around the island (Plates 1, 3). Aquatic plants such as *Myriophyllum* spp., *Potamogeton* spp. and *Triglochin procera* R. Br. flourished in these pools. Presumably, the island floated at its own level in the pool so formed. It appears that consequent waterlogging led to the death of the bushes for, though some pools had no island visible, probing their bottoms located decaying remains of islands from which sticks of the bushes could be recovered. In recent years a number of islands were deliberately burned and it is possible that these waterlogged remains, though uncharred, were of fire-killed islands.

### Uniqueness and Scientific Value

Formation of a floating mat of vegetation over an infilling lake basin is a common phenomenon, especially in the temperate northern hemisphere. Known as terrestrialisation (Tallis, 1974) the process of decay and replacement of the floating mat deposits peat to the basin beneath, gradually infilling from the edges inwards. The moss *Sphagnum* is usually involved in this process but in many cases it is aided and abetted by rhizomatous plants (Conway, 1949; Lewis *et al.*, 1928; Sinker, 1962; Swan and Gill, (1970) and terrestrial plants, including trees, often grow on such quaking bogs ('Schwingmoor'). Not uncommonly, as the trees increase in age and weight, they become too much for the floating mat to bear and they submerge or topple over, as at Chartley Moss in England. This process is vaguely analogous to the water-logging of islands at Lagoon of Islands. A better approximation is in the Norfolk Broads where tussocks of the sedge *Carex paniculata*, colonised by trees, become unstable and overturn or submerge (Lambert, 1951). However, there the self-destruction occurs under a closed canopy of widespread and general tree invasion—very different from the discrete and widely-dispersed islands in our case. Further, the northern hemisphere cases mentioned above, though analogous in process, are based on very different vegetation. Lagoon of Islands was unique—even to the extent that one of the principal island shrubs (*Callistemon viridiflorus*) is a Tasmanian endemic.

The scientific value of Lagoon of Islands was not confined to its uniqueness. It was a graphic demonstration of an ecological process in which one set of vegetation colonises or replaces another. Lagoon of Islands fetchingly illustrated the gradual infilling of a lake basin and, on a more restricted scale, the raising of an island soil above the water level, allowing colonisation by terrestrial, woody perennials. A most homiletic bit of ecology, the presence of islands at different stages of development tellingly recapitulated in space the temporal fate of any one island.

Beneath the peat of Lagoon of Islands lay another story. The alternating bands of peat and grey lake mud indicate a varied climatic history, the basin being occupied alternately by reedswamp and open water. Recent flooding by man returns the basin to a former natural state, and hinders access to the history of past climates.

### Destruction of Lagoon of Islands' Ecosystem

In 1964 a dam was built at Lagoon of Islands financed jointly by the Hydro Electric Commission (HEC) and the Inland Fisheries Commission (IFC).

It had been a policy of the IFC to convert marshes into 'new waters'. According to Hobbs (1961) 'two which would lend themselves most easily to conversion into fishing lakes, subject to sufficient precipitation in their catchments, are the Lagoon of Islands near Steppes and Lake Tiberias at the head of the Jordan River. The Hydro-Electric Commission and the Rivers and Water Supply Commission respectively have been approached and offered monetary assistance if these marshes can be developed as multi-purpose reservoirs'. Reduction or destruction of the emergent vegetation (i.e. reed mat) of Lagoon of Islands was deemed necessary, and in the following years (Hobbs, 1962) it was reported that 'to gain necessary information as to the desirable depth (of flooding) to ensure control of emergent aquatic plants, ... carried out an extensive survey of upland lakes'. The plant species were identified by the Botany Department of the University of Tasmania.

The role of Lagoon of Islands in the strategy of the HEC was intimately connected with the Poatina Power development. While power was developed southwards through Shannon and Waddamana, the Shannon River was not short of Great Lake water (Fig. 1). With proposals to lead the water northwards through Poatina, riparian rights along the Shannon would have to be met either by 'wasting' water southwards, or by providing an alternative supply. Lagoon of Islands was to be this alternative. Some thought was given to augmenting supply by diverting the Lake River, south of Arthur's Lake, into the Lagoon (Fig. 1), but this was not carried out. The dam was constructed in 1964 at a total capital cost of \$84 580, the IFC contributing \$18 000. For several years after sealing the dam, all was well with the vegetation of the lagoon. Rainfall was light, and what little rise in water level took place (Fig. 4) was partially compensated by the reed mat rising in sympathy. A certain resilience was inherent in the structure of the system, and for many years the family holding title to surrounding land had regulated water levels in a minor way, with no apparent ill effect on the lagoon. During 1970 and 1971 heavier rains brought in considerable water, to a depth of 2.2.5 m, beyond the resilient readjustment of the mat. The bases of the islands were flooded and reed growth became sparse (Plate 4). It seemed likely that high water levels would destroy the island-building system by abrasive wave action, denial of adequate photosynthesis, and general effects of submergence. High levels persisted, and by late 1974 the ecology of island formation seemed doomed. Reed growth was almost non-existent, and the rhizomatous mat had begun to break up and float to the surface. The vegetation of most islands had been killed by fire or flood (Plate 5), few islands surviving (Plate 6).

At the end of the 1974-75 summer, the vegetation was all-but destroyed. Possibly, immediate lowering of the water level would have allowed gradual regeneration of the system over a number of years.

### **Scales of Values**

Against the scientific value of the site must be set the exploitative values. Angling is a wholesome and highly-valued recreation. However, in a state where stocking and natural spread have introduced trout to several hundreds of lakes and rivers, with light angling pressure, it is hard to understand why 'new waters' are necessary. This is not to deny that the fishery has been successful. But the first flush of tertiary (fish) production in a flooded lake is usually followed by a decline and, further, should there be a complete break up of the reed mat to release underlying peats there will be marked deterioration of water quality. The long-term success of this fishery has yet to be demonstrated. The need for 'new waters', formed at environmental expense, needs justification.

To the HEC, water available to generate power at Poatina is valuable. Theoretically, if there was no Lagoon of Islands to supply riparian requirements, water would have to be released southwards from Great Lake. In wet years, when water is plentiful and dams may spill, it may not be untoward to release water. But in periods of drought, every drop of Great Lake water assumes greater significance for Poatina. In social terms, then, the real value of Lagoon of Islands in the hydro-electric network is the value of the power which, in drought years, could be generated at Poatina and, later, from the smaller Trevallyn station downstream, by the water saved from southward wastage. It is instructive to enquire just how great this saving would be.

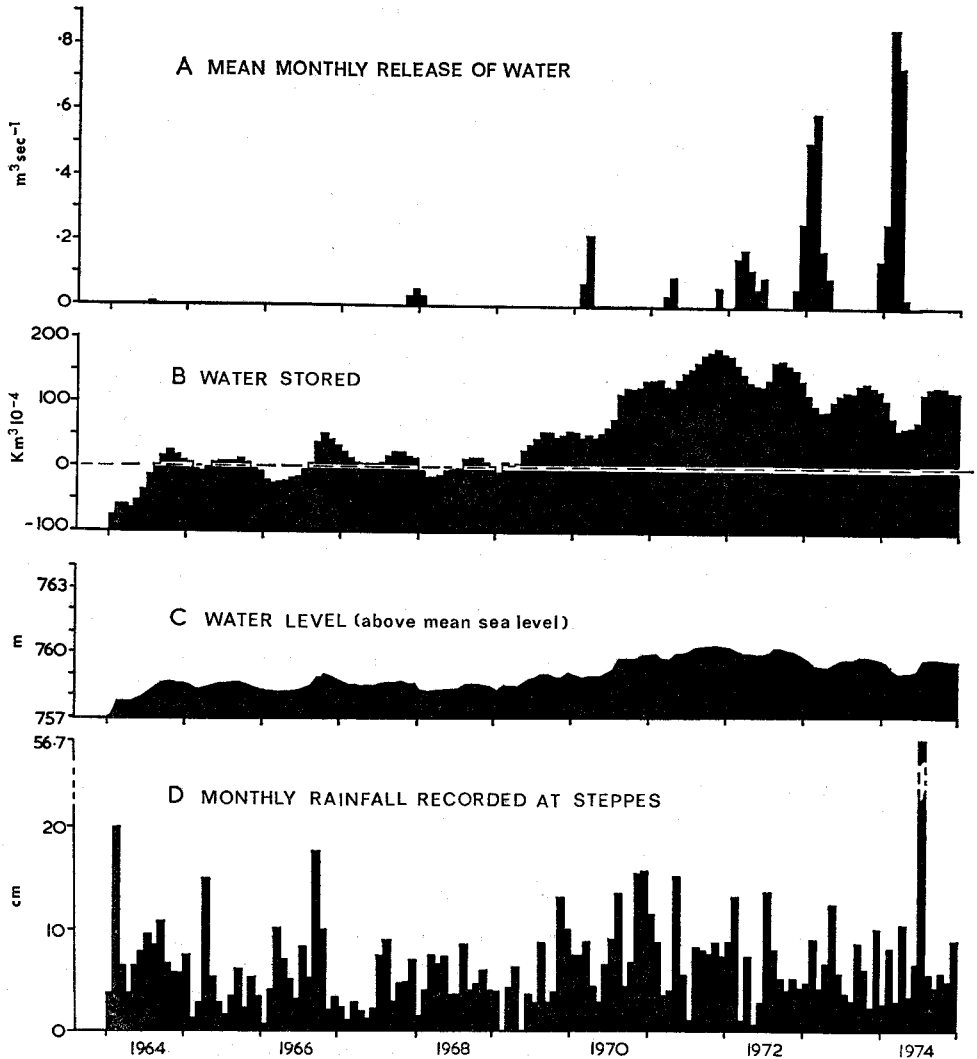


FIGURE 4 LAGOON OF ISLANDS: HYDROLOGICAL PARAMETERS

(Data kindly supplied by the HEC and the Bureau of Meteorology)



Figure 4 shows the performance of the dam since sealing, and Figure 5 the rainfall pattern of the area. The data suggest that yields from the limited catchment are sparse. Releases from the dam have also been minimal (Fig. 4). Figures 4 and 5 show that the commencement of serious flooding of the lagoon, in 1967, coincided with the higher than average rainfall in that year. In drier years water levels did not increase significantly. Inspection of the isohyets (Fig. 1) shows that in the periods of prolonged drought, when low rainfall would endanger the Great Lake supply, Lagoon of Islands would scarcely be in a position to supply adequate water for riparian rights.

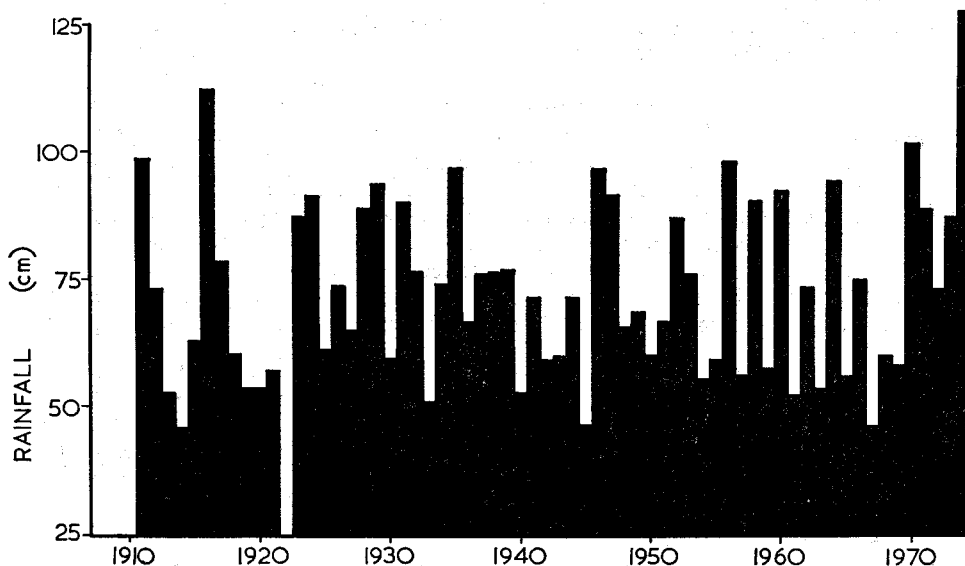


FIGURE 5 ANNUAL RAINFALL RECORDED AT STEPPES

(There were no records for 1922.)

The monetary value of water passing through the Poatina turbines is hard to determine. However, rough estimates may be adduced vicariously from the data in Figure 4. If Great Lake were at its lowest storage level in times of drought it would have an area of 91 km<sup>2</sup>. At maximum storage level, Lagoon of Islands stores 0.0182 km<sup>3</sup> of water. If this volume were poured on Great Lake at its lowest, it would form a layer 20 cm thick, enough to run the Poatina turbines continuously at present full operational load for 5½ days. The total volume of water released from the lagoon from the time the dam was sealed in 1964, until the end of 1974, would form a layer 13.7 cm thick, and run the turbines for 3½ days. These are rough approximations since, under drought conditions in Great Lake, Poatina would probably operate as a peak load station, spinning-out the usefulness of stored water. Nonetheless, they are meaningful values in that they give an order of return against which to judge the loss of the unique island ecology. The most significant point has already been made—in periods of prolonged drought Lagoon of Islands would be more deprived of water than Great Lake, and hardly in a position to supply substantial riparian water.

#### Proposals for Conservation

It is regrettable that no representations on behalf of Lagoon of Islands were made to the two Commissions, and the Government, before the dam was constructed. Ironically, the only biological consideration was directed, at the behest of the IFC,

specifically towards the depth of flooding necessary to destroy the troublesome vegetation. However, experience in Tasmania, and overseas, where assessment of environmental impact has been solicited *after* the decision to dam has been taken (Efford, 1975), suggests that a conservation case in the early 1960's would have gone unheeded. Nonetheless, it is no credit to biological scholars that efforts to avert destruction of this ecosystem came when the dam was built, the money spent. Nor is it surprising, or unreasonable, that the constructing agencies, who had acted in good faith, were unwilling to dismantle their works.

For several years after completion of the dam, the water level did not rise sufficiently to pose a threat to the vegetation (Fig. 4). It was the major influx of water during 1969-1970, together with the growing awareness of conservation values, which prompted efforts to save the lagoon. The author made representation to the IFC in 1970, and was informed (personal communication) 'that should the lagoon be a unique body of water of national importance then perhaps a case could be made for its preservation'. The author was invited to 'prepare a case in some detail...'. This was presented to the IFC and the HEC in 1971, the significant proposals being: (i) that the water level be dropped to an empirical 758 m to allow regeneration of the declining reed mat; (ii) that this level be maintained for 3-5 years to *allow* more detailed assessment of the value of the site; and (iii) that thereafter the possibility of levels being regulated to ensure survival of the plant communities, and still supply riparian water, be investigated.

Meanwhile the scientific value of Lagoon of Islands had been given sanction by its inclusion in 'Project Aqua' (Luther and Rzoska, 1969)—a list of aquatic sites warranting conservation, compiled for the International Biological Programme (IBP), the International Society for Limnology, and the International Union for the Conservation of Nature and Natural Resources (IUCN). The Scientific Co-ordinator of IBP, Dr Julian Rzoska, wrote to the two Commissions in 1971 supporting conservation proposals.

The HEC (pers. comm.), in consideration of its statutory obligations to meet riparian requirements, was unwilling to 'discharge water to waste at substantial cost'. The IFC (pers. comm.), after determining the feelings of the angling community, 'considered waiving its provision of maintaining a minimum depth of 0.76 m (2' 6") of water in storage for a period of several years', but demurred since 'this would not assist the Hydro-Electric Commission in its statutory obligation...'. In 1971 the matter was brought to the notice of the then Premier, Mr Bethune. His action was to reiterate that the HEC was unwilling to run water to waste.

In 1974 the Australian Conservation Foundation wrote to the two Commissions, giving full support to conservation proposals while also supporting the use of the lagoon as a trout fishery. The foundation requested lowering of the water level, pointing out that though the reed mat was greatly reduced in vigour, it was still (just) alive beneath the water and would most likely recover. The IFC reiterated the joint agreement with the HEC, commented on the successful fishery it had established, and regretted that it could not accede to the Foundation's request.

The HEC's reply expressed surprise that the reed mat and islands were still alive (since initial approaches had suggested they would be destroyed), and drew the inference that there was, therefore, no need to lower the water to 'save the species concerned'. This attitude ignored the fact that a complex ecosystem, not 'species', were the aims of conservation and that the vegetation was dying. The reply continued that since three years had elapsed since conservation proposals were first submitted the work should now be completed.

To the proposal that the water level be lowered for three to five years, to allow proper investigation, came the reply that since three years had now elapsed since conservation proposals were first submitted, the work should be completed!

### Conclusions

The tale of Lagoon of Islands is a sad one. It is sad because something of value has been lost, perhaps unnecessarily. It is sad because had scientific values been championed in today's climate of environmental awareness, and before substantial monies had been spent, the tale may have had a different ending. If there is any consolation to be drawn, it is that the case of Lagoon of Islands demonstrates two related facts. First, something of value may be unwittingly lost with the best-intentioned development and, secondly, if it is not to be lost it needs early identification and publicity.

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### Plates

Note: These plates follow page 56.

Plate 1 Lagoon of Islands from the West, showing islands and surrounding moats, in 1963.

Plate 2 A young island, of *Carex appressa* and *Restio tetraphyllus*, colonised by bushes of *Leptospermum lanigerum*. Small and large islands can be seen in the background (1963).

Plate 3 A large, shrub-covered island, surrounded by a moat of water (1963).

Plate 4 Lagoon of Islands from the dam in 1969, looking across to Jillets Tier. Reed growth is now very sparse. *Triglochin procera* is in the foreground and a live, partially flooded island is in the left background.

Plate 5 Remains of a flooded island sunk after burning and flooding (1974).

Plate 6 A flooded island, 1974. *Callistemon viridiflorus* just survives in the foreground. After flooding, flocks of cormorants moved to the lagoon. Their nests can be seen in a dead *Leptospermum* tree.

## Chapter 3

### GOVERNMENT AND ADMINISTRATION

#### GOVERNMENT IN TASMANIA

##### Historical Summary

In its short history, Tasmania has experienced diverse modes of government; beginning with autocratic rule, it graduated to responsible self-government as a British colony and finally surrendered some sovereign powers to take its place as an original Australian state.

The evolution of the system of bi-cameral responsible government within a federal system falls into five distinct phases:

**1803-1825:** The island was part of the colony of New South Wales and its lieutenant-governors and commandants were subordinate to the Governor in Sydney.

**1825-1851:** On 14 July 1825, Van Diemen's Land was created a separate colony with a Lieutenant-Governor directly responsible to the Secretary of State in London. A nominated Legislative Council was established.

**1851-1856:** The passage of the *Australian Constitution Act* 1850 by the Parliament in London was followed by the establishment of a new Legislative Council in which 16 members were elected and eight were nominees of the Lieutenant-Governor. The newly constituted Council first sat on 1 January 1852.

**1856-1901:** By the *Constitution Act* 1854, two houses of parliament, the House of Assembly and the Legislative Council were established, both houses being elected. The first Parliament sat on 2 December 1856 (the first year in which the island was officially called Tasmania); representatives of the Crown carried the title of Governor.

**1901:** The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. (The *Commonwealth of Australia Constitution Act* 1900 granted legislative and executive powers upon certain specified matters to the Australian Parliament and Government, some of them exclusively, and provision was made that, in the case of inconsistency of valid laws, the Australian Government law should prevail.) In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Australian Parliament but, on those matters for which the Australian Government may also legislate, the Tasmanian law may be superseded by the passing of an Australian Government act.

##### Introduction

Government in Tasmania is exercised at three levels:

- (i) The Australian Government, with authority based on a written constitution, and centred in Canberra.

- (ii) The State, with residual powers, and centred in Hobart.
- (iii) The cities and municipalities, with authority derived from State acts, and operating in 49 sub-divisions of the State.

This chapter deals primarily with the State Government and with Tasmanian representation in the Australian Parliament. The administration of the cities and municipalities is described in Chapter 4, 'Local Government'.

### **Tasmanian Representation in Australian Parliament**

The Australian Parliament consists of the Queen, a Senate and a House of Representatives. The Queen is represented in Australia by the Governor-General.

#### *The Senate*

The founders of the Australian Constitution had in mind that the Senate should give expression to the interests of the states as partners in the federation; in other words, the Senate should be a states' house. Accordingly, the proportional representation suggested by the varying populations of the states was disregarded, and it was provided that each state should be represented by six senators; the first Senate in the first Parliament comprised 36 members of whom six represented Tasmania. The numbers remained unchanged until the federal *Representation Act* 1948 when each state became eligible to elect 10 senators.

The Senate was also envisaged as a house of review and accordingly continuity of membership was provided by requiring only one-half of the Senate to retire every three years, and for each senator's term to be six years. If the normal pattern of three-yearly rotational retirement is broken by a double dissolution of both Houses, provision exists to elect a complete Senate with members divided into two numerically equal classes: the first five senators declared elected in each state serve a six-year term; the other five elected serve a three-year term. After a normal rotational election, senators' terms commence from the first day of the following July; in the case of an election for the whole Senate, terms commence from the first day of July preceding the election.

#### *The House of Representatives*

In designing the House of Representatives, the founders envisaged a legislative body representing the national interest and provided that the number of members chosen in the several states must be in proportion to population, but that no original state should have less than five members. The first House of Representatives in 1901 had 75 members of whom five were elected in Tasmania. The term of office was set as three years.

The *Representation Act* 1948 increased the House of Representatives to 123, although only 121 were elected from the states; the Northern Territory and the Australian Capital Territory each had one member with restricted voting powers. At 1 June 1975, the House of Representatives stood at 127 members, 124 from the states, two from the Australian Capital Territory and one from the Northern Territory. Throughout the period since Federation, Tasmanian representation has remained constant at five members.

General electoral redistributions were undertaken soon after the 1947, 1954 and 1966 population censuses, the most recent being carried out by the Electoral Commissioners in 1968. The 1968 recommendations were accepted by the Australian Parliament and their net effect was to increase membership of the Federal House of Representatives by one to 125 members. The 1969 Federal House of Representatives election was the first federal election to be conducted in

accordance with the new boundaries and subsequent to the election state representation in the House of Representatives became: N.S.W., 45; Victoria, 34; Queensland, 18; South Australia, 12; W.A., nine; Tasmania, five. The A.C.T. and Northern Territory each returned one member with full voting rights. In May 1974, following federal legislation, representation for Western Australia and the Australian Capital Territory was increased in both cases by one. (In W.A. the extra seat was created by a redistribution involving metropolitan Perth electorates while the A.C.T. was divided into two electorates.)

The following table indicates the state of the House of Representatives at the election immediately following an electoral redistribution:

Membership: House of Representatives

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T. (a)	A.C.T. (b)	Total
1948 .. ..	28	20	10	6	5	5	1	..	75
1949 (c) ..	47	33	18	10	8	5	1	1	123
1955 (c) ..	46	33	18	11	9	5	1	1	124
1969 (c) ..	45	34	18	12	9	5	1	1	125
1974 .. ..	45	34	18	12	10	5	1	2	127

(a) Representative in House since 1922; full voting rights granted 1969.

(b) Representative in House since 1949; full voting rights granted 1966.

(c) Election following an electoral redistribution.

### *Qualifications of Voters for Australian Government Elections*

An elector on a federal roll is required by law to vote both in elections for the House of Representatives and for the Senate. An elector is any person, male or female, aged at least 18 years who is a British subject, who has lived in Australia for six months continuously and whose name appears on the roll. (Federal legislation reducing the voting age to 18 years became effective from 21 March 1973.) Residence in an electoral sub-division for at least one month is necessary to enable a qualified person to enrol. Enrolment is compulsory.

### *Qualifications of Candidates—Either Federal House*

Qualifications necessary for membership of either House of the Australian Parliament are possessed by any British subject, 18 years of age or over, who has resided in Australia for at least three years and who is, or who is qualified to become, an Australian elector.

The term of office for a member of the House of Representatives is three years unless the House is dissolved earlier by the Governor-General.

### *Disqualification as Elector or Member*

Grounds for disqualification as an elector include being of unsound mind, or being convicted and under sentence for offences punishable by imprisonment for a year or longer. Grounds for disqualification as a member of either house include these prohibitions and also the following: membership of the other house, being an undischarged bankrupt or insolvent, holding office for profit under the Crown (with certain exceptions), or having pecuniary interest in any agreement with the Australian Government public service except as a member of an incorporated company of more than 25 persons.

*Elections for the Senate*

In Senate elections each state is an electorate. Electors are required to cast a vote for every candidate standing within the state in order of their preference, and election of members is carried out in accordance with the principles of proportional representation by the single transferable vote (see 'Elections for House of Assembly' in the 1971 *Year Book* for a description of similar electoral principles).

If a vacancy occurs in the Senate, the appropriate state government nominates a replacement who sits until the next general election (either for the House of Representatives or for the Senate), when an election is held to fill the vacancy. It is usual for appointed replacements to be of the same party as those they replace, although no law exists to require it. If a senator fills such a vacancy through an election held at the same time as an election for the House of Representatives, his term will be the same as if the vacating member's term were to run its full course. If the vacant seat is contested at an ordinary Senate election, then six, instead of the normal five candidates, will be elected in the state affected and the senator last elected will fill the vacancy for a term shorter than the full six years.

The following table lists the senators for Tasmania as at 30 June 1975 together with party affiliation and year of retirement:

Senate: Tasmanian Members

Senator	Party affiliation	Retires in year
Bessell, E. J. .. ..	Liberal	1976
Devitt, D. M. .. ..	A.L.P.	1979
Everett, M. G., Q.C. .. ..	A.L.P.	1976
Grimes, Dr D. J. .. ..	A.L.P.	1976
Marriott, J. E. .. ..	Liberal	1976
O'Byrne, J. H. .. ..	A.L.P.	1979
Rae, P. E. .. ..	Liberal	1979
Townley, M. .. ..	Liberal	1976
Wriedt, K. S. (a) .. ..	A.L.P.	1979
Wright, R. C. .. ..	Liberal	1979

(a) Federal Minister for Primary Industry.

*Elections for the House of Representatives*

Australia is divided into 127 single-member electorates and electors are required to cast a vote for every candidate standing within the electorate in order of their preference. Election of members is carried out in accordance with the principles of the absolute majority through use of the alternative vote (see 'Elections for Legislative Council' for a description of similar electoral principles). If a vacancy occurs in the House of Representatives, it is filled by holding a by-election in the electorate concerned. The last general election was held on 18 May 1974.

The following table lists the Tasmanian members of the House of Representatives as at 30 June 1975, together with the party affiliation and electorate of each member:

House of Representatives: Tasmanian Members

Member	Party affiliation	Electoral division
Newman, K. E. .. ..	Liberal	Bass
Coates, J. .. ..	A.L.P.	Denison
Davies, R. .. ..	A.L.P.	Braddon
Duthie, G. W. A. .. ..	A.L.P.	Wilmot
Sherry, R. H. .. ..	A.L.P.	Franklin



### Division of Power

Under the *Commonwealth of Australia Act* 1900, the State of Tasmania surrendered part of its sovereignty and it was possible, at that point in time, to classify the totality of powers to be vested in the Australian Government and the State as follows:

- (i) Exclusive powers to be exercised by the Australian Government alone.
- (ii) Concurrent powers to be exercised both by the Australian Government and the State (subject to the supremacy of Australian Government law in cases of inconsistency).
- (iii) Residual powers to be exercised by the State.

Since federation there have been considerable changes in functions actually performed by the two governments due to constitutional amendments and to inter-governmental agreements affecting function. It will suffice, therefore, to list the main fields of activity of the Australian Government today:

Foreign affairs and diplomatic representation; maintenance of the armed forces; customs and excise; posts and telegraphs; control of broadcasting and television; control of civil aviation; repatriation of ex-servicemen; immigration; industrial arbitration for national industries; control of coinage and currency; overseas trade promotion; employment service; age, invalid and widows' pensions; national health benefits; federal territories and overseas dependencies; census and statistics; meteorological service; federal courts and police; control of banking; collection of sales and income taxes; housing assistance and defence service homes; scientific and industrial research; management of state and national debt; lighthouses and navigation. (For a fuller treatment of this subject, the *Constitution* in Chapter 1 of the *Year Book of Australia* is recommended.)

The departments, authorities, etc. of the Tasmanian Government are listed in a later section of this chapter headed 'The Present System of Government'.

### The State Governor

#### Introduction

Democratic forms of government exhibit great variety but, with regard to the selection and role of the head of state, two clearly conflicting concepts can be discerned. In the American tradition, the head of state is elected and must necessarily play an active role in party politics. In the British tradition, the head of state is the holder of hereditary office and is expected to be above and beyond party politics. Tasmania follows the British tradition and accepts as its Queen, Elizabeth the Second. Her Majesty appoints the Governor who acts as head of state, generally for a five-year term. The relationship existing between the Queen and the British Parliament is broadly the same as that existing between the Governor and the Tasmanian Parliament.

#### Authority

The Governor's authority is derived from Letters Patent (issued in 1900) under the Great Seal of the United Kingdom, from the Commissions of Appointment and from the Governor's Instructions issued under the Royal Sign Manual and Signet.

#### Powers and Duties

The Governor summons and prorogues parliament; in special circumstances he may dissolve it after considering the advice of his premier. Bills which have passed all stages in parliament are submitted to the Governor for his assent although there

are some subjects which are specifically reserved for the Royal Assent (e.g. a Bill granting land or money to the Governor). He opens each session of parliament by outlining the legislative programme of the government which, irrespective of its party affiliation, he refers to as 'My Government', but takes no other part in the sittings of either house.

His executive powers include the appointment of ministers of the Crown, judges and other important state officers but not those whose appointments may be made by certain statutory corporations. By appointing ministers of the Crown, the Governor creates the Executive Council of the day and he is required by his instructions to be guided by the advice of this body. Should he feel it necessary to act against the advice of the Executive Council, he may do so, but the reasons for such action must be immediately reported to the Queen. The Governor's relations with the Executive Council and with Cabinet are more fully discussed in the section headed 'The Cabinet and Executive Government'.

The Governor has the power to pardon, reprieve and remit sentences and fines. In such cases he is required to seek the advice of at least one minister. He also has the power to appoint a deputy to act in his stead during his absence (for a period of less than one month) from the seat of government, whether within or outside the State. If the Governor is to be absent for a period in excess of one month, the Chief Justice, by virtue of the Dormant Commission, acts as Administrator. Further reference to the Governor's discretionary powers will be found under the section headed 'Dissolution of House of Assembly'. On all official state occasions, he performs the ceremonial functions as the representative of the Crown.

#### *Present Governor*

Until the succession of Sir Stanley Burbury, KBE on 5 December 1973, Tasmanian governors since the first settlement came from the United Kingdom, although in some other states and the Commonwealth, Australians had been appointed to the vice-regal office. Sir Stanley was sworn in on 5 December 1973, succeeding Lt-General Sir Edric Bastyan, a former Governor of South Australia.

#### *Honours*

Another function of the Governor is the investing of all honours awarded to Tasmanians in the Queen's Birthday and New Year Honours Lists, except for knighthoods which are normally dubbed by the Governor-General in Canberra.

#### *The Administrator*

In the Letters Patent of 1900 (as amended in 1934), provision was made for a Lieutenant-Governor to administer the government in the event of the Governor's death, incapacity, removal or absence from the State. Should there be no Lieutenant-Governor then appointed or should he be unable to act, the duties of the Governor were to be discharged by the Administrator. Attached to the Letters Patent was a Dormant Commission authorising the Chief Justice to act as Administrator 'in the event of the death, incapacity or absence of the Governor and the Lieutenant-Governor, if any'.

Lieutenant-Governors have often acted in place of the Governor but since 1943 it has been customary for the Chief Justice to act as Administrator in accordance with the provisions of the Dormant Commission which further nominates the next Senior Judge to act in the absence of the Chief Justice. (The last Lieutenant-Governor appointed was Sir John Evans, 1937-1943.)

*Succession of Governors*

The next table shows the succession of governors from the time of Lieutenant Bowen's settlement in 1803. The list of administrators and lieutenant-governors is restricted to those whose inclusion is necessary to maintain a continuous time series (i.e. short periods of relief during a governorship are excluded). The title 'governor' was first used by Sir H. E. Fox Young, under whose administration the Colony graduated to self-government.

The terms of office fall into four eras: (i) the governor directly responsible to N.S.W.; (ii) governor independent of N.S.W.; (iii) colonial self-government; and (iv) post-federation.

## Succession of Governors, Acting Governors, Administrators, etc. from 1803

Name	Designation	Period
(i) 1803-1825		
Lieut John Bowen .. .. .	Commandant	11. 9.03 - 16. 2.04
Colonel David Collins, R.M. .. .. .	Lieutenant-Governor	16. 2.04 - 24. 3.10
Lieut Edward Lord, R.M. .. .. .	Commandant	24. 3.10 - 8. 7.10
Captain J. Murray, 73rd Regt .. .. .	Commandant	8. 7.10 - 20. 2.12
Major A. Geils, 73rd Regt (a) .. .. .	Commandant	20. 2.12 - 4. 2.13
Colonel Thomas Davey, R.M. .. .. .	Lieutenant-Governor	4. 2.13 - 9. 4.17
Colonel William Sorell .. .. .	Lieutenant-Governor	9. 4.17 - 14. 5.24
Colonel George Arthur (b) .. .. .	Lieutenant-Governor	14. 5.24 - 3.12.25
(ii) 1825-1855		
Colonel George Arthur (b) .. .. .	Lieutenant-Governor	6.12.25 - 29.10.36
Lt-Col K. Snodgrass .. .. .	Administrator	29.10.36 - 5. 1.37
Sir J. Franklin, KCH, R.N. .. .. .	Lieutenant-Governor	5. 1.37 - 21. 8.43
Sir J. E. Eardley-Wilmot, Bart .. .. .	Lieutenant-Governor	21. 8.43 - 13.10.46
C. J. La Trobe, Esq. .. .. .	Administrator	13.10.46 - 25. 1.47
Sir W. T. Denison .. .. .	Lieutenant-Governor	25. 1.47 - 8. 1.55
(iii) 1855-1900		
Sir H. E. Fox Young .. .. .	Governor	8. 1.55 - 10.12.61
Colonel Thomas Gore Browne, CB .. .. .	Governor	10.12.61 - 30.12.68
Lt-Col W. C. Trevor, CB .. .. .	Administrator	30.12.68 - 15. 1.69
Charles Du Cane, Esq. .. .. .	Governor	15. 1.69 - 28.11.74
Hon. Sir Francis Smith, CJ .. .. .	Administrator	28.11.74 - 13. 1.75
F. A. Welds, Esq. .. .. .	Governor	13. 1.75 - 5. 4.80
Hon. Sir Francis Smith, CJ .. .. .	Administrator	5. 4.80 - 21.10.80
Lt-General Sir J. H. Lefroy, KCMG, CB .. .. .	Administrator	21.10.80 - 7.12.81
Sir G. C. Strahan, RA, KCMG .. .. .	Governor	7.12.81 - 28.10.86
Hon. W. R. Giblin, Esq. SJ .. .. .	Administrator	28.10.86 - 18.11.86
Hon. Sir W. L. Dobson, CJ .. .. .	Administrator	18.11.86 - 11. 3.87
Sir R. G. C. Hamilton, KCB .. .. .	Governor	11. 3.87 - 30.11.92
Hon. Sir W. L. Dobson, CJ .. .. .	Administrator	30.11.92 - 8. 8.93
Rt Hon. J. W. Joseph, Viscount Gormanston, KCMG .. .. .	Governor	8. 8.93 - 14. 8.00

**Succession of Governors, Acting Governors, Administrators, etc.—continued**  
(iv) 1900—

Name	Designation	Period
Sir John Dodds, KCMG .. .. .	Administrator	14. 8.00 - 8.11.01
Sir A. E. Havelock, GCSI, GCME, GCIE ..	Governor	8.11.01 - 16. 4.04
Sir John Dodds, KCMG .. .. .	Lieutenant-Governor	16. 4.04 - 28.10.04
Sir G. Strickland, KCMG .. .. .	Governor	28.10.04 - 20. 5.09
Sir John Dodds, KCMG .. .. .	Lieutenant-Governor	20. 5.09 - 29. 9.09
Sir Harry Barron, KCMG, CVO .. .. .	Governor	29. 9.09 - 8. 3.13
Sir John Dodds, KCMG .. .. .	Lieutenant-Governor	8. 3.13 - 4. 6.13
Sir William Ellison-Macartney, KCMG ..	Governor	4. 6.13 - 31. 3.17
Sir Herbert Nicholls .. .. .	Administrator	31. 3.17 - 6. 7.17
Sir F. A. Newdigate Newdegate, KCMG ..	Governor	6. 7.17 - 9. 2.20
Sir Herbert Nicholls .. .. .	Administrator	9. 2.20 - 16. 4.20
Sir W. L. Allardyce, KCMG .. .. .	Governor	16. 4.20 - 26. 1.22
Sir Herbert Nicholls .. .. .	Administrator	26. 1.22 - 30.11.23
Hon. N. K. Ewing, Esq. .. .. .	Administrator	30.11.23 - 13. 6.24
Sir Herbert Nicholls .. .. .	Administrator	13. 6.24 - 23.12.24
Sir James O'Grady, KCMG .. .. .	Governor	23.12.24 - 23.12.30
Sir Herbert Nicholls, KCMG .. .. .	Lieutenant-Governor	23.12.30 - 4. 8.33
Sir Ernest Clark, GCMG, KCB, CBE ..	Governor	4. 8.33 - 4. 8.45
Sir John Morris .. .. .	Administrator	4. 8.45 - 24.12.45
Admiral Sir Hugh Binney, KCB, KCMG, DSO	Governor	24.12.45 - 8. 5.51
Sir John Morris, KCMG .. .. .	Administrator	8. 5.51 - 22. 8.51
Rt Hon. Sir Ronald Cross, Bart, KCMG, KCVO .. .. .	Governor	22. 8.51 - 4. 6.58
Hon. Sir Stanley Burbury, KBE .. .. .	Administrator	4. 6.58 - 21.10.59
Rt Hon. the Lord Rowallan, KT, KBE, MC	Governor	21.10.59 - 25. 3.63
Hon. Sir Stanley Burbury, KBE .. .. .	Administrator	25. 3.63 - 24. 9.63
Lt-General Sir Charles Gairdner, KCMG, KCVO, KBE, CB .. .. .	Governor	24. 9.63 - 11. 7.68
Hon. Sir Stanley Burbury, KBE .. .. .	Administrator	11. 7.68 - 2.12.68
Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB .. .. .	Governor	2.12.68 - 5.12.73
Hon. Sir Stanley Burbury, KBE .. .. .	Governor	5.12.73 -

(a) Originally the Launceston settlement had its own officials appointed from N.S.W. Lieut-Governor W. Paterson was followed, as Commandant, by Captain J. Brabyn and Major G. A. Gordon. The next, Captain J. Ritchie, took office on 1 July 1812 subordinate to Major A. Geils.

(b) On 3 December 1825, Lt-General Sir Ralph Darling displayed in Hobart two commissions, one as Governor of N.S.W. and one as Governor of Van Diemen's Land. This was the device for separating Van Diemen's Land from N.S.W. Colonel George Arthur was sworn in again as Lieutenant-Governor on 6 December 1825.

### The Cabinet and Executive Government

#### General

In Tasmania, as in the other states and the Australian Government, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that the head of the state (in Tasmania, the Governor representing Her Majesty the Queen) should perform governmental acts on the advice of his ministers; that he should choose his principal ministers of state from members of parliament belonging to the party, or coalition of parties, commanding a majority in the popular house; that the ministry so chosen should be collectively responsible to that house for the government of the country; and that the ministry should resign if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of the government at all. In law, still, the executive power of the State is exercised by the Governor who is advised by the Executive Council which

he himself has appointed and which meets for certain formal purposes. The whole policy of a ministry is, in practice, determined by the ministers of the Crown, meeting without the Governor under the chairmanship of the Premier, and this body is known as the Cabinet.

### *The Cabinet*

This body does not form part of the legal mechanism of government and its meetings are private and deliberative. Only the ministers of the day are present, no records of the meetings are made public, and the decisions taken have, in themselves, no legal effect. As ministers are the leaders of the party commanding a majority in the House of Assembly, the Cabinet substantially controls not only the general legislative programme of parliament, but the whole course of parliamentary proceedings. In effect, though not in form, the Cabinet, by reason of the fact that all ministers are members of the Executive Council, is also the dominant element in the executive government of the State. Even in summoning, proroguing or dissolving parliament, the Governor is usually guided by the advice tendered him by the Cabinet, through the Premier, though legally the discretion is vested in the Governor.

In Tasmania, the present Cabinet consists of the 10 ministers of the Crown including the Premier, most of whom hold more than one portfolio.

### *The Executive Council*

This body is usually presided over by the Governor, the members thereof holding office during his pleasure. All ministers of the Crown must be members of the Executive Council. Ministers actually remain members of the Executive Council on leaving office, but are not summoned to its meetings, for it is an essential feature of the Cabinet system that attendance should be limited to the ministers of the day. The Chief Justice and judges of the Supreme Court are also members of the Executive Council, but they too are not summoned to its meetings for the same reason. The meetings of the Executive Council are formal and official in character, and a record of proceedings is kept by the Clerk (who is the permanent head of the Premier's and Chief Secretary's Department). At Executive Council meetings, the decisions of Cabinet are (where necessary) given legal form, appointments made, resignations accepted, proclamations issued, and regulations and the like approved. The quorum required is three, comprising the Governor and at least two ministers.

### *The Appointment of Ministers*

Legally, ministers hold office during the pleasure of the Governor. In practice, however, the discretion of the head of state in the choice of ministers is limited by the conventions on which the Cabinet system rests. When a ministry resigns, the Governor's custom is to send for the leader of the party which commands a majority in the lower house, and to commission him as premier, to 'form a ministry'—that is, to nominate other persons to be appointed as ministers of the Crown and to serve as his colleagues in the Cabinet.

The *Constitution Act* 1854 defined the Parliament of Tasmania as 'the Governor and the Legislative Council and House of Assembly together'. Although no legal requirements enforce it, the selection of all ministers of the Crown from Parliament stems from the British tradition and sharply contrasts with the American system which requires its ministers not to be members of Congress.

## Ministry

At 6 May 1975, the ministry led by the Hon. W. A. Neilson, was:

## Ministry at 6 May 1975

Name	House	Responsibility (a)
The Hon. W. A. Neilson .. ..	Assembly	Premier, Treasurer
The Hon. D. A. Lowe .. ..	Assembly	Deputy Premier, Chief Secretary, Planning and Reorganisation, Local Government
The Hon. B. K. Miller .. ..	Legislative Council	Attorney-General, Police, Emergency Services
The Hon. N. L. C. Batt .. ..	Assembly	Education, Recreation
The Hon. M. T. C. Barnard .. ..	Assembly	Tourism and Immigration, Lands and Works
The Hon. E. W. Barnard .. ..	Assembly	Agriculture and Fisheries
The Hon. H. D. Farquhar .. ..	Assembly	Health
The Hon. G. D. Chisholm .. ..	Assembly	Transport, Racing and Gaming
The Hon. S. C. H. Frost .. ..	Assembly	Industrial Development, Forests, Mines
The Hon. D. J. Baldock .. ..	Assembly	Housing, Social Welfare

(a) See section 'The Present System of Government' later in chapter for fuller statement of responsibility.

## Premiers

The following is a list of the Premiers of Tasmania from 1856 (the year in which the first elected parliament sat):

## Premiers from 1856

Name of Premier	Term of office		Duration of office (months)
	From	To	
1856-1900			
W. T. N. Champ .. ..	1.11.56	26. 2.57	4
T. G. Gregson .. ..	26. 2.57	25. 4.57	2
W. P. Weston .. ..	25. 4.57	12. 5.57	1
F. Smith .. ..	12. 5.57	11.1.60	42
W. P. Weston .. ..	11.1.60	2. 8.61	9
T. D. Chapman .. ..	2. 8.61	20. 1.63	18
J. Whyte .. ..	20. 1.63	24.11.66	46
Sir Richard Dry .. ..	24.11.66	4. 8.69	32
J. M. Wilson .. ..	4. 8.69	4.11.72	39
F. M. Innes .. ..	4.11.72	4. 8.73	9
A. Kennerley .. ..	4. 8.73	20. 7.76	36
T. Reibey .. ..	20. 7.76	9. 8.77	13
P. O. Fysh .. ..	9. 8.77	5. 3.78	7
W. R. Giblin .. ..	5. 3.78	20.12.78	9
W. L. Crowther .. ..	20.12.78	30.10.79	10
W. R. Giblin .. ..	30.10.79	15. 8.84	58
Adye Douglas .. ..	15. 8.84	8. 3.86	19
J. W. Agnew .. ..	8. 3.86	29. 3.87	13
P. O. Fysh .. ..	29. 3.87	17. 8.92	65
H. Dobson .. ..	17. 8.92	14.4.94	20
Sir Edward Braddon .. ..	14. 4.94	12.10.99	66
Sir N. E. Lewis .. ..	12.10.99	9. 4.03	42
W. B. Propsting .. ..	9. 4.03	11. 7.04	15
J. W. Evans .. ..	11. 7.04	19. 6.09	59
Sir N. E. Lewis .. ..	19. 6.09	20.10.09	4
J. Earle (a) .. ..	20.10.09	27.10.09	..
Sir N. E. Lewis .. ..	27.10.09	14. 6.12	32



## Premiers from 1856—continued

Name of Premier	Term of office		Duration of office (months)
	From	To	
1900-			
A. E. Solomon .. ..	14. 6.12	6. 4.14	22
J. Earle (a) .. ..	6. 4.14	15. 4.16	24
Sir Walter Lee .. ..	15. 4.16	12. 8.22	76
J. B. Hayes .. ..	12. 8.22	14. 8.23	12
Sir Walter Lee .. ..	14. 8.23	25.10.23	2
J. A. Lyons (a) .. ..	25.10.23	15. 6.28	56
J. C. McPhee .. ..	15. 6.28	15. 3.34	69
Sir Walter Lee .. ..	15. 3.34	22. 6.34	3
A. G. Ogilvie (a) .. ..	22. 6.34	10. 6.39	60
E. Dwyer Gray .. ..	11. 6.39	18.12.39	6
R. Cosgrove .. ..	18.12.39	18.12.47	96
E. Brooker .. ..	18.12.47	25. 2.48	2
R. Cosgrove .. ..	25. 2.48	26. 8.58	126
E. E. Reece .. ..	26. 8.58	26. 5.69	129
W. A. Bethune .. ..	26. 5.69	3. 5.72	35
E. E. Reece .. ..	3. 5.72	31. 3.75	35
W. A. Neilson .. ..	31. 3.75		

(a) Tasmania had an unbroken succession of Labor premiers, starting with the Ogilvie Ministry (1934) until the resignation of the Reece government (following electoral defeat) on 26 May 1969; earlier Labor ministries were led by J. Earle (first in 1909) and by J. A. Lyons.

## Relations of Two Houses

*Status of Legislative Council*

A vexed question for many years was the exact status of the Legislative Council in relation to the House of Assembly from which the ministry of the day was predominantly chosen. The 1854 Constitution Act had defined Parliament as 'the Governor and the Legislative Council and House of Assembly together' and obviously the approval of all three was necessary for laws to become valid; on the other hand, there was no adequate provision for resolving situations in which the Legislative Council rejected bills or amended bills in ways unacceptable to the House of Assembly. The lower house was elected on a wider franchise, and could legitimately claim to be the more accurate instrument of public opinion to the extent that it was not a perpetual body like the Legislative Council, as its members were all elected at the one time. (Only in 1968 was legislation passed to introduce adult franchise for Legislative Council elections.) The power of the Legislative Council to reject and amend was most resented in relation to money bills, since these vitally affected the administration of public affairs by the ministry of the day.

*The Conflict of 1924 and 1925*

The 1924-25 Appropriation Bill was amended by the Legislative Council, involving a reduction of \$37 000. The Premier (J. A. Lyons) decided to challenge the right of the upper house to amend money bills; after a two-house conference had failed to reach agreement, the House of Assembly voted 17 to 10, directing the Speaker to seek Royal Assent for the bill 'in the form it passed the House of Assembly'.

The Administrator gave assent to the bill following consultation with the Secretary of State in London and Tasmanian Crown Law officials and it went on to the statute book.

By 1925, a new Governor (Sir James O'Grady) had taken up office but he followed the precedent set by the Administrator, giving assent to 'one-house' bills.

A joint committee was established in 1925 to formulate constitutional changes that would resolve the situation and define the relations of the two houses in the passing of money bills. This resulted in the passage of the *Constitutional Amendment Act 1926*.

The following current principles are found in the Act: (i) the Legislative Council retains the right to reject any bill, including a money bill; (ii) the Council is specifically prevented from amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax; (iii) it can suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly; and (iv) the operation of such bills is restricted to a period of one year. Apart from the above specific exceptions, the Council retains the right to amend money bills, e.g. those dealing with loan funds or probate. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two houses are declared equal in all matters except for these specific exceptions.

### *Deadlocks*

The Legislative Council has the tradition of being a non-party house; in 1975 the composition of the house was 17 independents and two Labor Party representatives. The leader for the Government in the Legislative Council cannot rely upon a vote taken on party lines to ensure the passage of any government bill. It is the ability to command a majority in the House of Assembly which gives a party the right to form the government of the day and which ensures the passage of government legislation through the lower house; no such certainty exists in the passage of bills through the upper house and accordingly the Legislative Council is in a position to exercise considerable influence on the form in which bills are finally passed through both houses.

### *Consultation Machinery*

When a position is reached in which one house refuses to accept the amendments or legislation of the other, provision exists under the Standing Orders for joint consultation by the calling of a 'free conference' at which each house is represented by 'managers'. (It is usual for each house to be represented by four managers.) The free conference endeavours to find a compromise acceptable to both houses.

Another form of consultation between the two houses is the appointment of a joint select committee which is set terms of reference and which is primarily concerned with fact-finding. The passage of a bill may be temporarily delayed while a joint select committee makes a specific investigation; this machinery provides members with the information necessary to cast an informed vote.

### *Parties*

In the period 1909-1972, the major parties have been the Labor Party and the Liberal Party (which replaced the Nationalist Party in 1948). In the early 1920s, a Country Party appeared with five members in the House of Assembly but soon

went out of existence. At the 1964 Assembly elections, a number of Country Party candidates stood but none was successful. In October 1966 K. O. Lyons, one of the House of Assembly members for Braddon, resigned from the Liberal Party and formed the Australian Centre Party, an organisation affiliated with the Australian Country Party. At the 1969 elections the Centre Party had one representative returned to the House of Assembly; however, at the 1972 elections the Party did not field any candidates.

### **Dissolution of the House of Assembly**

The Governor may dissolve the House of Assembly whenever he considers it desirable but he has no power to dissolve the Legislative Council. In effect then, the Legislative Council is a perpetual body except that approximately one-sixth of its seats falls vacant annually. As there is no provision for a double dissolution the Legislative Council, by rejection of a supply bill, can force the House of Assembly to seek a dissolution without itself needing to face the electorate. This last occurred in 1948.

In practice, the Governor considers dissolving the House of Assembly only when requested to do so by his ministers. In recent years the House of Assembly has been dissolved three times; in 1950, 1956 and again in 1972.

### *Sessions of Parliament*

Parliament is required to sit every year and, having risen, must sit again before 12 months have elapsed. When the House of Assembly is dissolved and a general election held, the Governor is required to call parliament together within 90 days of the dissolution, subject to a discretionary extension of a further 30 days.

### **Elections for the House of Assembly**

#### *Tasmanian System*

Elections for the House of Assembly are conducted under a system which can be classified as proportional representation by the single transferable vote (commonly known as the Hare-Clark system).

The essential features of the system are as follows:

- (i) For an elector to cast a valid vote, he must express at least three preferences.
- (ii) Names on the voting papers are arranged in distinct groups to facilitate recognition of allegiance to parties (but names of parties are not specified).
- (iii) To secure election, candidates must secure a quota in accordance with the Droop formula (i.e. the total first-preference votes in the constituency divided by eight, plus one vote).
- (iv) Should a candidate secure an exact quota on first preferences, his voting papers are set aside as finally dealt with.
- (v) If the first successful candidate secures a surplus above the quota, then all his voting papers are re-examined to determine which candidates should secure the second preferences.
- (vi) The second preferences are first adjusted by multiplying them by a fraction called the transfer value. The transfer value is calculated by dividing the successful candidate's surplus first-preference votes by his total first preferences. The second-preference votes, adjusted in this way, are now transferred to other candidates.

- (vii) When repetition of the above process results in a position where no further candidates can reach a quota, the candidate who is lowest on the poll is excluded and the preferences shown on his voting papers transferred to the remaining candidates.

The above processes are repeated until seven candidates have been elected. As might be expected, the counting of votes, calculation of transfer values and the transferring of votes are time-consuming operations and a week may elapse before the declaration of a poll.

### *Commencement of the System*

In 1907, an Electoral Act provided that all members of the House of Assembly were to be elected by proportional representation, the State being divided into five constituencies each of which was to be represented by six members. The first election in accordance with this Act was held in 1909.

The fourth schedule to the 1907 Act dealing with quotas, transfer of votes, exclusion of candidates, etc. is still the blueprint for counting votes today; however, as from the 1959 elections, the number of members for each constituency was increased from six to seven, a measure designed to avoid parliamentary deadlocks.

### *Advantages*

The major advantage claimed for the system is that the composition of the House of Assembly tends to faithfully reflect the wishes of the electors viewed on a state basis, and that a party with a minority of first preferences is most unlikely to obtain a majority of seats, as sometimes occurs in systems with single-member constituencies. By way of example, South Australia, using single-member electorates has sometimes been governed by parties receiving a minority of votes but a majority of seats, other Australian states have had similar experiences.

Leaving aside the matter of independents and minority parties, and assuming that only candidates from the two major parties are elected, then the present normal pattern is for each constituency to elect four candidates from one of the major parties and three from the other. It follows, therefore, that the opposition is normally always adequately represented in the House of Assembly and supporters of the opposition party always have representatives for their constituency.

### *Effectiveness of System*

Since voting for the House of Assembly requires a voter to make at least three choices in order of preference, any complete investigation of the effectiveness of the system requires a study of all preference votes. However, an approximate measure of effectiveness can be obtained by treating the State as a single electorate and finding the total first preference votes obtained by each party; from these totals it is possible to calculate, by simple proportion, the theoretical share of seats to which each party is entitled. In the table that follows, this measure of effectiveness has been calculated for all House of Assembly elections in the period 1931-1972 inclusive. It will be seen that although the relationship between seats actually won and the calculated proportionate share is fairly close in most elections for the major parties, a change in the number of members elected for each electorate after the 1959 election has partially unbalanced this relationship. At the 1972 elections, the contending parties were Labor Party and Liberal Party, while a number of candidates stood as independents, and in addition a number of persons without party affiliations stood as the United Tasmania Group on a conservation platform.

**Representation of Parties for the Whole State, 1931-1972**  
**House of Assembly**

Election Year	Labor		Liberal (from 1948) or Nationalist		Other (a)	
	Proportionate share (b)	Seats won	Proportionate share (b)	Seats won	Proportionate share (b)	Seats won
1931 .. ..	10.47	10	16.92	19	2.61	1
1934 .. ..	13.74	14	14.01	13	2.25	3
1937 .. ..	17.61	18	11.64	12	0.75	..
1941 .. ..	18.78	20	10.98	10	0.24	..
1946 .. ..	15.29	16	10.27	12	4.44	2
1948 .. ..	14.82	15	11.35	12	3.83	3
1950 .. ..	14.59	15	14.27	14	1.14	1
1955 .. ..	15.79	15	13.60	15	0.61	..
1956 .. ..	15.08	15	13.08	15	1.84	..
1959 (c) ..	15.58	17	14.37	16	5.05	2
1964 .. ..	17.97	19	13.47	16	3.56	..
1969 .. ..	15.91	17	14.68	17	4.41	1
1972 .. ..	19.22	21	13.43	14	2.35	..

(a) Independents and minority parties.

(b) State treated as single electorate and proportionate share of seats calculated on basis of first preference votes cast for parties.

(c) 35 members elected as from 1959.

### *Use of the System*

Many regard the system of election for the House of Assembly as being a phenomenon peculiar to Tasmania. This is by no means so, since the following countries either use or have used a similar system of election: Republic of Ireland (both houses), South Africa (Senate), Malta (both houses), Gibraltar (Legislative Council), Canada (for some provincial electorates in Alberta and Manitoba) and Australia itself, in the election of the federal Senate. If the State has any claim to being unique in the field of electoral reform, it must be based on the fact that Tasmania was the first country in the world to introduce proportional representation by the single transferable vote.

### *Votes Recorded at Assembly Elections*

The last general election for the House of Assembly was held on 22 April 1972. Voting in general elections since 1931 is shown in the following table:

#### **Assembly Elections Since 1931**

Year of election	Electors on roll	Votes recorded		Informal votes	
		Number	As percentage of enrolled electors	Number	Percentage of total votes recorded
1931 .. ..	118 730	112 779	95.0	3 885	3.4
1934 .. ..	127 681	120 622	94.5	3 855	3.2
1937 .. ..	132 001	124 460	94.3	2 997	2.4
1941 .. ..	139 234	127 034	91.2	6 344	5.0
1946 .. ..	157 756	143 674	91.1	14 484	10.1
1948 .. ..	161 088	148 588	92.2	5 886	3.9
1950 .. ..	161 650	152 785	94.5	6 841	4.5
1955 .. ..	173 165	162 637	93.9	6 158	3.8
1956 .. ..	174 632	166 293	95.2	6 968	4.2
1959 .. ..	180 344	170 559	94.6	9 816	5.8
1964 .. ..	193 418	184 571	95.5	7 980	4.3
1969 .. ..	210 268	198 571	94.4	9 248	4.7
1972 .. ..	216 846	205 803	94.9	7 533	3.7





*Plate 1*



*Plate 2*



*Plate 3*

*Lagoon of Islands*  
*(references to plates follow the article in chapter 2)*  
*[P. A. Tyler]*





*Plate 4*



*Plate 5*



*Plate 6*

*Lagoon of Islands*  
*(references to plates follow the article in chapter 2)*  
*[P. A. Tyler]*

The percentage of informal votes in the previous table is not particularly high, even though the voting papers for six or seven-member electorates are necessarily more complicated than those for single-member electorates. In Senate elections held in Tasmania, informal votes tend to be rather a large proportion of votes cast and in the 1934 election exceeded 16 per cent. In Assembly elections only three preferences are compulsory whereas in Senate elections the voter must indicate as many preferences as there are candidates.

### Resolution of Assembly Deadlocks

#### *House of 30 Members*

One of the virtues claimed for the Hare-Clark system is the adequate representation given to minorities. In a small house of 30 members, this virtue tended to be too evident and led to situations where the government of the day did not have the necessary majority to carry all its legislation with confidence.

The first remedy employed was the *Constitution Amendment Act 1954* which provided that, in the event of a 15-all draw between the two major parties in an election, an Electoral Commission would be established. This body's function would be to decide, on the basis of primary votes cast for each party, which were the majority and minority parties. On the meeting of the House, the minority party would then have the right to nominate one of its members to the office of Speaker. If the minority party refused to exercise this right, then the majority party might proceed to appoint one of its own members and it would receive an additional member in replacement, elected from the Speaker's constituency.

The 1954 Act provided machinery for overcoming deadlocks but still did not have much impact on the major problem—that of providing the government of the day with an effective working majority.

#### *House of 35 Members*

In 1958, a further constitutional amendment was made in which the number of members to be elected for each constituency was increased from six to seven thus enlarging the House of Assembly from 30 to 35 members. At the first elections held under the provisions of this amendment (May 1959) the major parties secured 17 and 16 seats respectively, the remaining seats being won by independents.

### Life of House of Assembly

After the *Constitution Act 1936*, the House was elected for five-year terms. The 1954 Act provided that the term should be reduced to three years if the special deadlock provisions were invoked to appoint a Speaker, but the 1958 Act restored five-year terms irrespective of the outcome of the election. In 1969, the life of the House was reduced to three years by the newly-elected Bethune Government.

When Labor was returned to office in April 1972 the Premier, Mr Reece, introduced legislation to restore a five-year term for the House of Assembly. The Bill was passed by the House in June 1972. However, a number of members of the Legislative Council had voiced strong objections to restoration of a five-year term for the House of Assembly. A conference between the Premier and Council members failed to resolve the issue. The term of office for the House of Assembly was amended from five to four years by the Council and the Bill returned to the lower house for ratification of the amendment. Following the rejection of the amended Bill by the House of Assembly a conference of managers from the two houses was called. After lengthy debate a compromise solution, which proved

acceptable to both houses, was reached. The compromise agreed to was: (i) term for the present House of Assembly, five years; (ii) House of Assembly terms following completion of the present term, four years; and (iii) no future alterations to House of Assembly terms unless two-thirds of its members agree to the change.

### Constituencies of House of Assembly

The five constituencies for the House of Assembly are identical with the five electoral divisions electing members to the federal House of Representatives. The periodic alteration of electoral boundaries to accord with changes in population is carried out under a joint federal-state agreement, the most recent redistribution becoming effective in November 1968. The next table and map show composition and extent of each electorate.

Enrolments by Electorate (a)

Electorate	Enrolments					
	Old boundaries	New boundaries				
		31 May 1968	31 May 1968 (b)	30 June		
	1971			1972	1973 (c)	1974 (c)
Bass .. ..	40 139	40 139	41 208	41 486	42 949	46 843
Braddon ..	41 803	41 803	45 121	46 541	48 407	51 685
Denison ..	35 353	42 917	44 451	45 374	47 505	52 192
Franklin ..	49 026	37 203	41 406	42 119	44 782	49 202
Wilmot ..	37 103	41 362	42 969	43 360	45 040	48 732
Total ..	203 424	203 424	215 155	218 880	228 683	248 654

(a) Electoral boundaries changed for the divisions of Denison, Wilmot and Franklin.

(b) Although boundary changes did not become effective until 25 November 1968 the enrolment figures at 31 May 1968 show the immediate effect of the changes.

(c) Not strictly comparable with previous years; greater than normal increase for 1973 and 1974 reflects the lowering of the voting age to 18 years in mid-1973.

### Elections for the Legislative Council

#### Annual Fractional Elections

For the purpose of electing members of the Legislative Council, the State is divided into 19 single-member constituencies. Each member, when elected, holds office for six years and Council elections are held every year to elect three members; every sixth year four members are elected. There are no general elections for the Legislative Council.

#### Preferential Voting

Candidates appear on the voting paper in alphabetical order and are not grouped to show party allegiance as in voting papers for the House of Assembly. If there are two candidates, the voter need only vote for one. If there are three or more candidates, the voter must indicate at least three preferences to record a valid vote.



If any candidate secures first-preference votes exceeding half the total first preferences, he is declared elected. If no candidate satisfies this condition, then the candidate with the fewest votes is excluded and the second preferences shown on his voting papers are transferred to other candidates, the transfer value of each such second preference being equal to one. If no candidate then has the required majority, the process of exclusion is repeated until such time as one candidate secures the majority.

The method of counting is identical with that used in elections for the federal House of Representatives and is termed preferential. The full description is election by absolute majority through use of the alternative vote.

### Boundaries, Legislative Council Divisions

Late in 1967, the *Constitution Act* 1934 was amended to change the boundaries of the Legislative Council divisions, the new boundaries being used for the first time in 1969. The following table shows the number of electors in each division before and after redistribution:

Legislative Council: Effect of Changed Boundaries on Number of Electors in each Division

Division (a)	Before redistribution	After redistribution				
	31 May 1968	30 Sept. 1968	30 June			
			1972 (b)	1973 (c)	1974 (c)	
Buckingham (H) .. ..	11 450	10 227	10 806	11 548	15 446	
Cornwall (L) .. ..	6 556	9 499	12 231	12 049	12 186	
Derwent (R) .. ..	13 370	6 078	6 947	7 388	7 319	
Gordon (S) .. ..	4 039	3 731	5 526	5 305	5 391	
Hobart (H) .. ..	4 565	10 091	13 146	13 116	13 860	
Huon (R) .. ..	9 141	7 776	9 821	9 820	10 590	
Launceston (L) .. ..	2 826	8 998	11 237	10 960	11 537	
Macquarie (R) .. ..	7 107	5 819	5 804	6 399	7 655	
Meander (R) .. ..	5 639	7 151	7 901	7 615	7 639	
Mersey (DU) .. ..	11 023	11 037	15 047	14 889	15 467	
Monmouth (R) .. ..	3 491	6 313	6 968	7 342	7 952	
Newdegate (H) .. ..	7 867	11 822	12 534	12 699	14 999	
Pembroke (H) .. ..	17 214	13 347	18 926	18 604	19 283	
Queenborough (H) .. ..	7 824	9 495	11 265	10 879	12 933	
Russel (R) .. ..	8 189	8 268	9 420	9 503	9 973	
South Esk (R) .. ..	9 517	7 263	8 512	9 121	10 463	
Tamar (R) .. ..	8 183	6 182	6 822	8 551	8 890	
West Devon (BP) .. ..	9 249	9 438	13 013	12 757	13 044	
Westmorland (L) .. ..	13 270	8 290	9 736	11 153	10 935	
Total .. ..	160 520	160 825	195 662	199 698	215 562	

(a) (H) = Hobart and suburban; (L) = Launceston and suburban; (BP) = Burnie and Penguin municipalities; (DU) = Parts of Devonport and Ulverstone municipalities; (R) = rural; (S) = special.

(b) Franchise widened 1 July 1969; not directly comparable with figures for 1968.

(c) Voting age lowered to 18 in mid-1973.

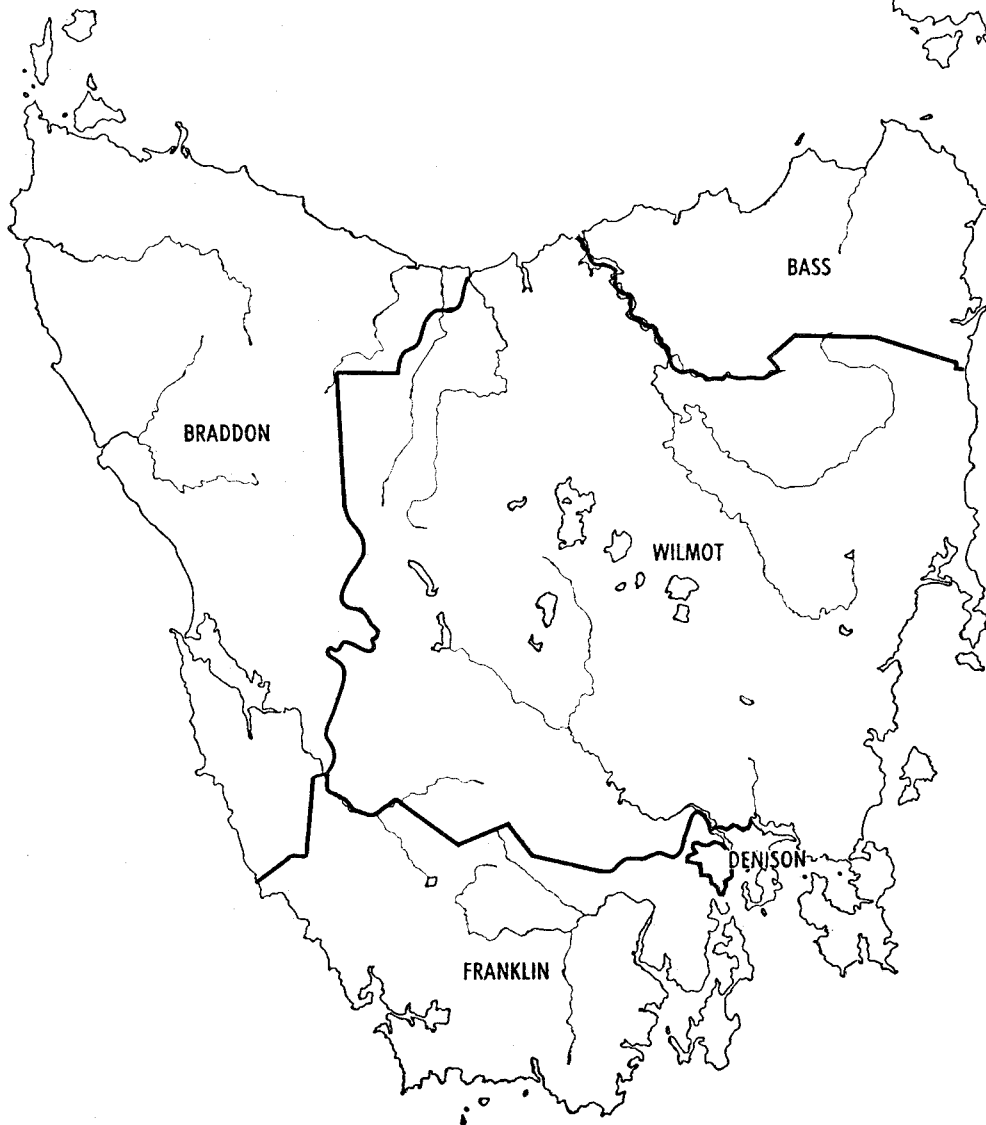
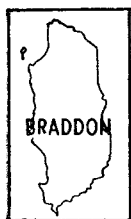
The redistribution differentiated between the faster growing populations in urban electorates and the stationary or contracting populations in rural seats. Special provision was made for the isolated west coast seat of Gordon.

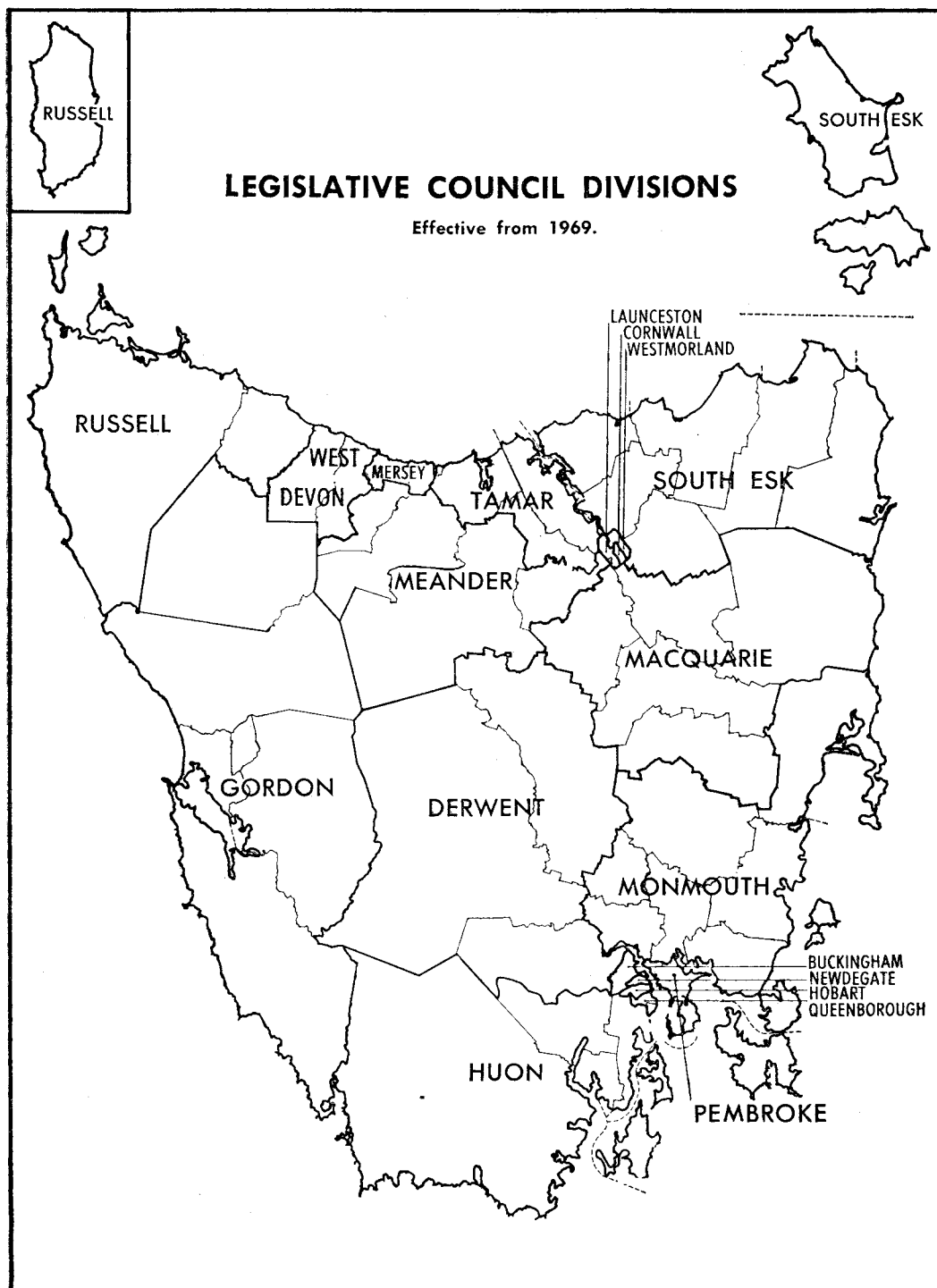
Although universal franchise replaced the former restricted franchise on 1 July 1969, the Electoral Department progressively updated the roll concentrating mainly on the three or four electorates contested each year.

**ELECTORAL DIVISIONS**

STATE.....House of Assembly

FEDERAL...House of Representatives







### Qualifications of Electors and Members

#### *Qualifications of Electors, State Elections*

An elector for both the House of Assembly and the Legislative Council is any person, aged at least 18 years, male or female, who has lived in the State six months continuously, who is a natural-born or naturalised subject of the Queen and whose name is on the electoral roll for an electoral division. (Legislation reducing the voting age to 18 years passed both houses of parliament in mid-1973.) Voting has been compulsory since the *Electoral Act* 1928. The special qualifications for electors of the Legislative Council were abolished on 1 July 1969 following amendments to the *Constitution Act* 1934 and the *Electoral Act* 1907.

#### *Qualifications of Members, State Parliament*

*House of Assembly:* To be eligible for election as a member of the House of Assembly, a candidate must comply with the following conditions: he must either be an elector or be qualified to be an elector for the House of Assembly and resident in Tasmania for five years at any one time or resident for two years immediately preceding the election.

*Legislative Council:* A candidate for the Legislative Council must be an elector or have the qualifications of an elector for the Council; in addition he must meet the residential restrictions imposed on candidates for the House of Assembly.

Persons of unsound mind or in prison under any conviction are barred from voting at elections for either house or from being elected to either house. No person shall be a member of both houses at the one time.

### By-Elections

#### *House of Assembly*

In the case of a vacancy occurring in the House of Assembly, there is provision for the Chief Electoral Officer to publicly invite nominations from candidates who were unsuccessful at the last general election in the constituency which elected the vacating member. If one nomination only is received the consenting candidate is declared elected and the Governor notified to this effect.

If more than one such nomination is received, the Chief Electoral Officer is required to examine the voting papers counted for the vacating member at the last general election. In the simple case—where the vacating member obtained a surplus above the quota—this can be confined to voting papers expressing first choices. In the more difficult case—where the vacating member did not obtain a quota on first choices—it is necessary to take into account not only original first-choice papers but also all voting papers representing votes transferred to the vacating member.

The vacating member's voting papers, as defined above, are examined and all his votes are transferred to the consenting candidates according to the preferences expressed thereon. Second preferences derived from first-choice votes of the vacating member have a transfer value of one, but from votes he obtained by transfer, only the value at which he obtained them. For the purpose of the count, first-choice votes received by the consenting candidates at the general election are not relevant—the selection is based on preferences as revealed by the voting papers of the vacating member.

When the number of votes in favour of each consenting candidate has been ascertained, the final selection is by the method of the absolute majority through the alternative vote.

If no nominations are received from candidates unsuccessful at the last general election, then an election is held to fill the vacancy.

Since the 1972 general election, the following resignations from the House of Assembly occurred: Mr Everett, former Deputy-Premier and Attorney-General, in April 1974; Dr Foster, former Minister for Health, in July 1974; Mr Fagan, former Minister for Industrial Development, in July 1974; Mr Corby in August 1974; Mr Reece, former Premier and Treasurer, in March 1975; Mr Costello, former Minister for Agriculture and Fisheries, in May 1975; and Mr Bethune in June 1975. In each case, nominations were called from unsuccessful candidates at the 1972 election. The successful nominees who filled the vacancies resulting from the resignations above were Mr I. K. Cole, Mr H. N. Holgate, Mr C. L. Batt, Mr J. E. Green, Mr J. J. Britton, Mr J. Coughlan and Mr I. Braid, respectively.

### *Legislative Council*

In the case of a vacancy occurring in the Legislative Council, a writ is issued directing that an election be held to fill the vacancy. There is no provision for a re-count of voting papers of the vacating member as in by-elections for the House of Assembly.

## **Members of Parliament**

### *Legislative Council*

The following table shows members of the Legislative Council, the electoral division which they represent and the year in which each will retire from the Council:

**Members of the Legislative Council**

Electoral Division	Member's name	Year of retirement
Buckingham .. .. .	Lowrie, The Hon. Kenneth Francis	1980
Cornwall .. .. .	King, The Hon. Frank Barnard	1978
Derwent .. .. .	Dixon, The Hon. Joseph Henry (a)	1979
Gordon .. .. .	Broadby, The Hon. Albert James	1976
Hobart .. .. .	Benjamin, The Hon. Phyllis Jean, MBE (b)	1976
Huon .. .. .	Hodgman, The Hon. Peter	1978
Launceston .. .. .	Shipp, The Hon. Raymond William	1976
Macquarie .. .. .	Shaw, The Hon. George Arthur	1980
Meander .. .. .	Coates, The Hon. Jeffrey Allan	1977
Mersey .. .. .	Braid, The Hon. Henry William	1978
Monmouth .. .. .	Bisdee, The Hon. Louis Fenn	1981
Newdegate .. .. .	Miller, The Hon. Brian Kirkwall (b) (c)	1981
Pembroke .. .. .	McKay, The Hon. Eric Charles	1977
Queenborough .. .. .	Hodgman, The Hon. William Clark	1977
Russell .. .. .	Fenton, The Hon. Charles Balfour Marcus (d)	1981
South Esk .. .. .	Carins, The Hon. Lloyd Horton, O.B.E.	1980
Tamar .. .. .	Hitchcock, The Hon. Daniel	1979
West Devon .. .. .	Young, The Hon. William Thompson	1977
Westmorland .. .. .	Gregory, The Hon. Oliver Harold	1979

(a) Chairman of Committees.

(b) Endorsed by the Australian Labor Party; other members are independents.

(c) Leader for the Government in the Legislative Council; Attorney-General and Minister for Police and Emergency Services.

(d) President.

### *House of Assembly*

The following table shows members of the House of Assembly and their party allegiance:

## Members of the House of Assembly at 13 July 1975

Electoral division	Member's name	Party affiliation
Bass .. .. .	Barnard, The Hon. Michael Thomas Claude Beattie, Eric William Bushby, Maxwell Holmes Farquhar, The Hon. Hedley David Holgate, The Hon. Harold Norman (a) Le Fevre, Vernon Mackenzie Pitt, Neil Henry	A.L.P. Liberal Liberal A.L.P. A.L.P. A.L.P. Liberal
Braddon .. .. .	Barker, Wilfrid George Bonney, Raymond Claude Britton, Joseph James Chisholm, The Hon. Geoffrey Donald Coughlan, John Davies, Ronald Glen Ward, Sydney Victor	Liberal Liberal A.L.P. A.L.P. A.L.P. A.L.P. A.L.P.
Denison .. .. .	Austin, Kenneth Ernest (b) Baker, Robert Wilfred Batt, The Hon. Neil Leonard Charles Bingham, The Hon. Eardley Max (c) Cole, Ian Kenneth Green, John Edward Mather, Robert	A.L.P. Liberal A.L.P. Liberal A.L.P. A.L.P. Liberal
Franklin .. .. .	Barnard, The Hon. Eric Walter Beattie, John Maxwell Clark, Douglas Frank Frost, The Hon. Stewart Charles Hilton Lowe, The Hon. Douglas Ackley (d) Neilson, The Hon. William Arthur (e) Pearsall, Geoffrey Allan	A.L.P. Liberal Liberal A.L.P. A.L.P. A.L.P. Liberal
Wilmot .. .. .	Baldock, The Hon. Darrel John Batt, Charles Leo Bessell, Leonard Hubert Braid, Ian Ingamells, Christopher Robert Lohrey, Andrew Barnard Polley, Michael Robert	A.L.P. A.L.P. Liberal Liberal Liberal A.L.P. A.L.P.

(a) Speaker.

(b) Chairman of Committees.

(c) Leader of the Opposition.

(d) Deputy Premier.

(e) Premier.

## House of Assembly Elections, 22 April 1972

The election on 22 April 1972 resulted in a clear-cut victory for the Labor Party which was returned to power with a seven-seat majority, the largest obtained by a Tasmanian Government since 1941 when Labor held 20 seats in the 30-member House of Assembly. The filling of vacant seats by re-counts (following resignations) had not changed the Labor majority by 13 July 1975.

## Salaries of Members of Parliament

## Parliamentary Salaries Tribunal

From 1962, until abolished by legislation in 1973, parliamentary salaries and allowances were determined by an independent parliamentary salaries tribunal. Salary and allowance reviews were on a triennial basis and the next table gives details of salaries as determined by the tribunal in its decisions:

**Determinations of the Parliamentary Salaries Tribunal, 1964, 1967 and 1970**  
(**\$**)

Particulars	Rate per annum from 1 October		
	1964	1967	1970
<b>BASIC SALARY OF MEMBERS</b>			
Member, Legislative Council	4 600	6 000	7 200
Member, House of Assembly	4 600	6 000	7 200
<b>SPECIAL RATES (GROSS) (a)</b>			
Cabinet—			
Premier (b) .. .. .	10 000	13 300	16 000
Deputy Premier .. .. .	8 200	11 300	13 400
'Senior' Ministers .. .. .	7 600	} 10 200	12 200
'Junior' Ministers .. .. .	7 600		
Legislative Council—			
President .. .. .	6 200	8 060	9 600
Chairman of Committees .. .. .	5 400	7 300	8 600
Leader for the Government	7 000	9 100	10 300
Deputy Leader .. .. .	5 250	6 800	8 000
House of Assembly—			
Speaker .. .. .	6 200	8 060	9 600
Leader of the Opposition .. .. .	(c) 7 400	(c) 9 950	(d) 11 700
Deputy Leader .. .. .	5 400	7 020	8 400
Chairman of Committees .. .. .	5 400	7 300	8 600

(a) All rates included the basic salary received by the office-holder as a member.

(b) Excluded entertainment allowance of \$700 (1964) and \$900 (1967 and 1970).

(c) Excluded travelling allowance of \$500 (1964); and \$650 (1967).

(d) In addition travelling allowance, on the same basis as for ministers, was payable.

**Parliamentary Salaries and Allowances Act 1973**

This Act abolished the Parliamentary Salaries Tribunal and established the principle of annual review to establish a basic rate of pay to members. The basic rate was set at \$7 200 or the 'interstate average' of the rates payable to ordinary 'back-bench' members of the Legislative Assemblies of New South Wales, Victoria, Queensland and Western Australia and the House of Assembly of South Australia. Of the two rates (i.e. \$7 200 or the interstate average) the greater rate is chosen as the basic salary. Calculation of the interstate average is the responsibility of the 'salaries committee' comprising the Government Statistician, Clerk of the Legislative Council and Clerk of the House of Assembly. The committee is required to meet as soon as practical after 15 June each year (except for 1973) and make the necessary calculation. A report on the method adopted to make the calculation and the interstate-average is then forwarded to the Auditor-General who may accept the calculation or himself make a calculation replacing that of the salaries committee. Having either accepted the salaries committee's calculation or substituted one of his own, the Auditor-General is required to publish in the *Government Gazette* the appropriate interstate average which then becomes the basic salary for payment of parliamentary salaries and allowances.

Additional amounts, as shown in the next table, are payable to the Premier, Deputy Premier, Ministers of the Crown, Leader of the Opposition and other officers of parliament. The extra salaries payable are all related to the basic salary.

**Special Rates Payable in Addition to the Basic Salary (a)  
(Per Cent)**

Particulars	Additional salary payable as proportion of basic salary (b)	Particulars	Additional salary payable as proportion of basic salary (b)
Cabinet—		House of Assembly—	
Premier .. .. .	125	Speaker .. .. .	33½
Deputy Premier .. ..	85	Chairman of Committees ..	20
Ministerial office .. ..	70	Leader of the Opposition ..	70
Legislative Council—		Deputy Leader of the Opposition .. .. .	17
President .. .. .	33½	Government Whip .. .. .	6
Leader for the Government	70	Opposition Whip .. .. .	6
Chairman of Committees	20		
Deputy Leader for the Government .. ..	11		

(a) The basic salary was set at \$12 671 in 1974 and raised to \$16 582 from July 1975.

(b) Salary in excess of basic rate (e.g. the Premier receives basic rate + 1.25 × basic rate).

**Allowances Payable to Members:** Electoral allowances, and entertainment allowances are calculated as a proportion of the base rate. Travel allowances are related to rates payable to permanent heads of State Government Departments. The next table shows the electoral allowances payable as a proportion of the basic salary:

**Electoral Allowances Payable as a Proportion of the Basic Salary (a)  
(Per Cent)**

Electoral division	Proportion of basic salary payable	Electoral division	Proportion of basic salary payable
Legislative Council—		Legislative Council— <i>continued</i>	
Buckingham .. .. .	13	Queenborough .. .. .	11
Cornwall .. .. .	12	Russell .. .. .	26
Derwent .. .. .	18½	South Esk .. .. .	26
Gordon .. .. .	26	Tamar .. .. .	18½
Hobart .. .. .	11	West Devon .. .. .	17
Huon .. .. .	18½	Westmorland .. .. .	14
Launceston .. .. .	12	House of Assembly—	
Macquarie .. .. .	20	Bass .. .. .	26
Meander .. .. .	22	Braddon .. .. .	30
Mersey .. .. .	17	Denison .. .. .	15
Monmouth .. .. .	24	Franklin .. .. .	21
Newdegate .. .. .	11	Wilmot .. .. .	35
Pembroke .. .. .	13		

(a) The basic salary was set at \$16 582 in July 1975.

**The Present System of Government**

The system of responsible government in Tasmania requires that the executive power of the State shall be exercised by the Cabinet; in exercising this power, the ministers of the Cabinet are held responsible for the actions and administration of government departments and other governmental authorities which have been created for three basic purposes: (i) to put into practice the laws made by parliament; (ii) to give effect to the decisions of the ministry; and (iii) to advise the ministry on matters of policy.

The next section lists the departments and authorities at 6.5.75 under the various ministers but the allocation of responsibility is subject to change and Cabinet has the power to vary it at any time. A detailed account of the work of the various departments and authorities appeared in the first two issues of the *Year Book* series.

**Premier and Treasurer**

Premier's and Chief Secretary's Dept  
Treasury Dept  
Dept of Film Production  
Government House

Agent-General's Office  
Supply and Tender Dept  
Tasmanian Government Insurance Office  
Government Printing Office

**Deputy-Premier, Chief Secretary; Minister for Local Government, Planning and Reorganisation**

Chief Secretary's Dept  
Audit Dept  
Public Service Board Dept  
Electoral Dept  
Dept of Labour and Industry  
Public Service Arbitrator  
Apprenticeship Commission

Town and Country Planning Commission  
Local Government Office  
Dept of the Environment  
Consumer Protection Council  
Miners Pension Board  
National Estate

**Attorney-General, Minister for Police and Emergency Services**

Attorney-General's Dept  
Solicitor-General's Dept  
Supreme Court and Sheriff's Dept  
Magisterial and Court of Requests Dept  
Parliamentary Counsel's Dept  
Public Trust Office  
Law Reform Commission

Registrar-General's Dept  
Police Dept  
Prisons Dept  
Road Safety  
Fire Brigades Commission  
Rural Fires Board  
State Emergency Service

**Minister for Education, Recreation**

Education Dept  
National Parks and Wildlife Service

State Library, Museum

**Minister for Tourism and Immigration, Lands and Works**

Dept of Tourism and Immigration  
Dept of Public Works  
Dept of Lands

Licensing Court  
Rivers and Water Supply Commission  
Metropolitan Water Board

**Minister for Agriculture and Fisheries**

Dept of Agriculture  
Inland Fisheries Commission  
Sea Fisheries Division

Agricultural Bank of Tasmania  
Tasmanian Grain Elevators Board

**Minister for Health**

Dept of Health Services

Mental Health Services Commission

**Minister for Transport, Racing and Gaming**

Transport Commission  
Metropolitan Transport Trust

Racing and Gaming Commission  
Totalisator Agency Board

**Minister for Industrial Development, Forests, Mines**

Directorate of Industrial Development and Trade  
Forestry Commission

Hydro-Electric Commission

**Minister for Housing, Social Welfare**

Housing Dept

Social Welfare Dept



*Government and Administration*  
**ACTS OF STATE PARLIAMENT**

**Summary of Recent Acts**

The examples below illustrate the interpretation of the notations used in the following list of Acts:

- (A 1952)—An Act to amend an Act of the same title passed in 1952.
- (A Audit Act 1952)—An Act to amend an Act of this title passed in 1952.
- (R 1952)—An Act to repeal an Act of the same title passed in 1952.
- (R Audit Act 1952)—An Act to repeal an Act of this title passed in 1952.
- (P 1952)—An Act to be incorporated and to be read as one with the Principal Act passed in 1952.
- (P Audit Act 1952)—An Act to be incorporated and to be read as one with the Principal Act of this title passed in 1952.
- (RS 1952)—An Act to repeal an Act of the same title passed in 1952 and to substitute new legislation.
- (RS Audit Act 1952)—An Act to repeal an Act of this title passed in 1952 and to substitute new legislation.

**State Acts, 1973**

Number	Short title and summary
1	Homes (A1935)—miscellaneous amendments.
2	Probation of Offenders (RS1934, 1963, 1971)—provisions relating to probation of offenders, imposition of work orders.
3	Miners' Pensions (A1956)—amending the maximum government contribution to the pension fund.
4	Mines Inspection (A1968)—miscellaneous amendments.
5	St Luke's Hospital Loan Guarantee—guarantee repayment of a loan.
6	Loan Fund Supply 1973-1974—issue and application of Loan Fund.
7	Inspection of Machinery (A1960)—provision for notice of accidents.
8	Consumers Protection (A1970)—functions of council and requirements for written information.
9	Unordered Goods and Services—making payment demands for unordered goods and services unlawful.
10	Registration of Births and Deaths (RS1895, 1968)—miscellaneous amendments.
11	Crown Advocate—appointment, remuneration, conditions of service and functions of a Crown Advocate
12	King Island Port Facilities (Financial Assistance) Agreement—approval of a federal-state agreement for financial assistance for construction of port facilities.
13	Litter—making littering unlawful.
14	Consolidated Revenue Fund Supply 1973-1974—issue and application of funds.
15	Consolidated Revenue Fund Appropriation (No. 2) 1972-1973—issue and application of funds for subsidy payments to primary producers.
16	Savings Banks (A1948)—miscellaneous amendments.
17	Education (A1932)—miscellaneous amendments and provisions for establishing boards of advice.
18	Public Service (RS1923, 1960, 1961, 1963, 1964, 1965, 1966, 1967, 1969, 1970, 1971; RS Public Service Tribunal Act 1958, 1961, 1963, 1967, 1968, 1971)—consolidation and amendment of the law regarding appointment, remuneration, conditions of service of officers of the public service; establishment of a Public Service Board.
19	Electoral (A1907)—miscellaneous amendments.
20	Companies (A1962)—provisions relating to holding companies.
21	Age of Majority—making the age of majority 18 years.
22	Justices (A1959)—miscellaneous amendments.
23	Police Offences (A1935, A Traffic Act 1925, A Justices Act 1959)—driving or using a motor vehicle without consent of the owner made an offence of motor vehicle stealing.

## State Acts, 1973—continued

Number	Short title and summary
24	Hospitals (A1918)—miscellaneous amendments.
25	Traffic (A1925)—revocation of sections dealing with continued registration of agricultural and horticultural machinery and implements.
26	Metropolitan Water (A1961)—raised amount obtainable through public borrowing to \$10m.
27	Parliamentary Salaries and Allowances (RS1962)—determination of salaries payable to members of parliament.
28	Parliamentary Superannuation (RS1955, 1961, 1964, 1968, 1972)—establishment of a superannuation scheme for members of parliament.
29	Long Service Leave (Casual Employment) (A1971)—miscellaneous amendments.
30	Criminal Code (A Criminal Code)—miscellaneous amendments.
31	Conveyancing and Law of Property (A1884)—amendments relating to strata titles.
32	Casino Company Control—restrictions imposed on ownership of specified companies.
33	Port of Hobart Reclamation (A1954)—additional area for reclamation.
34	Environment Protection—to make provision for protecting the environment.
35	Statute Law Revision (Environment Protection)—amendment of various Acts affected by the Environment Protection Act.
36	Stock (A1932)—amendments relating to artificial breeding.
37	Artificial Breeding (A1964)—miscellaneous amendments.
38	Water (A1957)—miscellaneous amendments.
39	Irrigation Clauses (A Water Act 1957)—consolidation of provisions generally applicable to irrigation schemes.
40	Local Government (A1962, 1972)—miscellaneous amendments.
41	Pay-roll Tax (A1971)—increasing pay-roll tax.
42	Abandoned Lands (RS1965)—provision for reversion and revesting in the Crown of abandoned land.
43	Transport (A1938)—operation of shipping services by the Transport Commission.
44	Long Service Leave (Casual Employment) (No. 2) (A1971)—allow absence on a public holiday as countable service.
45	Transport (No. 2) (A1938)—conditions of service of Transport Commissioners.
46	Wages Boards (A1920)—provision for appointment of a deputy chairman of wages boards.
47	Public Welfare Institutions (A1935)—setting up of inmates' trust accounts and disposal of unclaimed property of former inmates.
48	Education (No. 2) (A Education Act 1932)—special grants to private schools.
49	Crown Land (Miscellaneous Provisions)—allowing sale of certain Crown land.
50	Police Regulation (A1898, 1971)—amendments concerning disciplinary offences.
51	Housing Agreement (A Homes Act 1935)—authorising the execution of a federal-state housing agreement.
52	Mental Health Services (A1967)—setting up of patients' trust accounts and removal of property from patients.
53	Consolidated Revenue Fund Appropriation 1973-1974—issue and appropriation of funds.
54	Public Health (A1962)—miscellaneous amendments.
55	Loan Fund Appropriation 1973-74—issue and appropriation of funds.
56	Local Government (Metric Conversion) (A Local Government Act 1962)—amendments to facilitate the use of metric measurements.
57	Land Tax—provision for State land tax.
58	Licensing (A1932)—establishment of a three-member licensing court and provision for types of licences.
59	Statutory Salaries (A1971)—amendments to salaries of judges, magistrates and other statutory office holders.
60	Service Payments (Public Hospitals) (A1972)—interpretation to be applied in certain cases of changes of employment.
61	Medical (A1959)—miscellaneous amendments.
62	Criminal Code (No. 2) (A Criminal Code)—abolition of whipping as punishment.
63	Inspection of Machinery (No. 2) (A Inspection of Machinery Act 1960)—miscellaneous amendments.
64	Factories, Shops, and Offices (A1965)—miscellaneous amendments.
65	Trustee (A1898)—distribution of estates or trusts provisions.
66	Probation of Offenders (No. 2) (A Probation of Offenders Act 1973)—discharge or suspension of probation orders.
67	Tasmanian Theatre and Performing Arts Council—provision for the establishment of a council and for the encouragement and promotion of arts and culture.
68	Theatre Royal (RS National Theatre and Fine Arts Society Act 1949, National Theatre Agreement Act 1962)—make provision for the management and control of the Theatre Royal.

Number	Short title and summary
69	Tourism Development (A1970)—miscellaneous amendments.
70	Parliamentary Superannuation (No. 2) (A Parliamentary Superannuation Act 1973)—amendments to contributions and pensions.
71	Motor Accidents (Liabilities and Compensation)—provision for the discharge of liabilities in respect of death or injury in a motor vehicle accident and for compensation payment.
72	Consolidated Revenue Fund Supplementary Appropriation 1972-1973—to grant and apply funds.
73	Consolidated Revenue Fund Appropriation (No. 2) 1973-1974—to grant and apply funds.
74	Railway Management (A1935)—miscellaneous amendments.
75	Metric Conversion—amendment to various Acts to facilitate the use of metric measurements.
76	Meteorites—provide for protection for meteorites and making them the property of the Crown.
77	Pharmacy (A1908)—miscellaneous amendments.
78	Long Service Leave (Casual Wharf Clerks) (A1966)—miscellaneous amendments.
79	Launceston Marine Board Loan (A1951)—lifting of borrowing powers.
80	Homes (No. 2) (A1935)—miscellaneous amendments.
81	Education (No. 3) (A Education Act 1932)—minor amendment.
82	Police Offences (No. 2) (A1935, R Trespass to Lands Act 1862, 1946)—making trespassing a police offence.
83	Rural Reconstruction—ratification of an agreement with the Australian Government to continue rural financial assistance.
84	Supreme Court Civil Procedure (A1932)—provisions for full Court to review determinations of a judge sitting without a jury.
85	Potato Marketing Board (A1952)—powers of the Board to buy and sell land and to invest money.
86	Long Service Leave (A1956, 1964)—miscellaneous amendments.
87	Maintenance (A1967)—making of maintenance agreements.
88	Criminal Code (No. 4) (A Criminal Code, A Probation of Offenders Act 1973)—minor amendment.
89	Real Property (A1862, 1886, 1893)—miscellaneous amendments.
90	Church of England Constitution—consolidation of the law relating to the church in Tasmania.
91	Egg Industry Stabilisation—facilitation of stable conditions in the industry.
92	Rural Fires (A1967)—miscellaneous amendments.
93	Workers' Compensation (Alternative Remedies) (A Workers Compensation Act 1927)—miscellaneous amendments.
94	Real Property (Special Vesting Orders)—provisions under which a person may obtain registered proprietorship of land in certain circumstances.
95	Poisons (A1971)—miscellaneous amendments.
96	Local Government (No. 2) (A1962)—miscellaneous amendments.
97	Gas Franchises—to franchise the Hobart and Launceston Gas Companies to supply gas in certain areas.
98	Traffic (No. 2) (A Traffic Act 1925)—minor amendments.
99	Substandard Housing Control—provision for control of substandard housing rents and incidental matters.
100	Legal Practitioners (A1959)—allow for articulated clerks for the Crown Advocate and the Assistant Crown Solicitor.
101	Conveyancing and Law of Property (No. 2) (A1884)—miscellaneous amendments.
102	Fisheries (A1959)—powers of officers under the principal Act.
103	Mock Auctions—prohibition of mock auctions.
104	Wheat Industry Stabilisation (A1968)—miscellaneous amendments.
105	Licensing (No. 2) (A Licensing Act 1932)—reduction of legal drinking age to 18 years.
106	Workers' (Occupational Diseases) Relief Fund (A1954)—miscellaneous amendments.
107	Soft Fruit Industry (A1972)—miscellaneous amendments.
108	Racing and Gaming (A1952, 1971)—legalisation of 'bingo', 'Calcutta' sweepstakes, miscellaneous amendments.
109	Advertisements (Terms of Purchase)—requirement to disclose terms of purchase in advertisements for sale of goods.
110	Fruitgrowing Industry Reconstruction Agreement (Supplemental Agreement) (A Fruitgrowing Industry Reconstruction Agreement Act 1972)—provisions for a supplemental agreement to that in the principal Act and incidental amendments.
111	Flammable Clothing—requirement for marking or labelling of clothing.
112	Deceased Persons' Estates Duties (A1931)—minor amendment.
113	Public Trust Office (A1930)—minor amendment.
114	Crown Lands (Miscellaneous Provisions) (No. 2)—provision for the sale of certain Crown land.

## State Acts, 1973—continued

Number	Short title and summary
115	Unordered Goods and Services (No. 2) (A1973)—minor amendment.
116	Administration and Probate (A1935)—minor amendment.
117	Trust Companies (A1953)—amendment of a judge's powers to make orders for payment of moneys and securities.
118	Northern Casino (Supplemental Agreement)—ratification of supplemental agreement.
119	Traffic (No. 3) (A Traffic Act 1935)—amendments allowing for provision of 'hardship driving licences.

## State Acts 1974

Number	Short title and summary
1	Racing and Gaming (A1952)—miscellaneous amendments including provision for establishment of the Totalisator Agency Board.
2	Consolidated Revenue Fund Supply 1974-1975—issue and application of funds.
3	Loan Fund Supply 1974-1975—issue and application of Loan Funds.
4	Acts Interpretation (A1931)—miscellaneous amendments.
5	Public Works Construction (A1880)—provision for delegation of powers by the Minister to the Director of Public Works.
6	Criminal Code—amendment of the Criminal Code in relation to the defilement of young girls.
7	Anzac Day Observance Act (A1929)—provisions relating to sport and entertainment.
8	Fruit Board (A1934)—to enable a Director of Tasfruit Pty Ltd to be a member of the Board.
9	Jury (A1899)—qualification for and exemption from jury service.
10	Nurses' Registration Act (A1952)—no males to be registered as midwifery nurses.
11	Audit (A1918)—surcharges on persons to recover deficiencies of losses.
12	Films (A1971)—registration and classification of films.
13	Education (A1932)—the Schools Board of Tasmania, membership and meetings.
14	Education (Teachers Federation)—provisions relating to a teacher appointed full-time president of the Tasmanian Teachers Federation.
15	King Island Shipping Service (Loan Agreement)—provisions relating to a loan for acquisition and operation of the motor vessel <i>Straitsman</i> .
16	Medical (A1959)—relating to temporary registrations by the Medical Council of Tasmania.
17	Law Reform Commission—establishment of the Law Reform Commission of Tasmania and associated provisions.
18	Road Safety (Alcohol and Drugs) (A1970)—provisions relating to breath analysis and disqualification from driving.
19	Tasmanian Auxiliary Nursing Service (A1949)—amendment to qualifications for registration.
20	Tasmanian Government Insurance (A1919)—gave additional insurance powers to the Tasmanian Government Insurance Office.
21	Crown Lands (Miscellaneous Provisions) (P Crown Lands Act 1935)—miscellaneous provisions re closure of roads, sale of land, etc.
22	Savings Bank (A1848)—provisions relating to payment on death of depositor where the deposit does not exceed \$3 000.
23	Deceased Persons' Estates Duties Act (A1931)—increased limit for value of estate above which dealings with the estate of a deceased person is prohibited without a certificate of Commissioner.
24	Straits Islands Abattoirs (A1950)—amended provisions relating to advances to the King and Flinders Islands Abattoirs Boards.
25	North Esk Regional Water (A1960)—miscellaneous amendments and extension of the water supply.
26	Public Works Committee (A1914)—miscellaneous amendments.
27	Governor's Salary (A1951)—increased the Governor's salary.
28	Architects (A1929)—amendment to qualifications for registration.
29	Motor Accidents (Liabilities and Compensation) (Temporary Provisions)—provided for the transfer of certain rights, liabilities and obligations relating to motor vehicle insurance policies to the Motor Accidents Insurance Board.
30	Traffic (Metric Conversion) (A1925)—substituted metric measures in place of imperial measures.
31	Motor Vehicles Tax (Metric Conversion) (A1917)—substituted metric measures in place of imperial measures.

## State Acts 1974—continued

Number	Short title and summary
32	Retirement Benefits (A1970)—miscellaneous amendments relating to retirement benefits for State Government employees.
33	Lending of Money (A1915)—amended provisions relating to maximum interest rates charged by lenders of money and commission on loans.
34	Pay-roll Tax (A1971)—raised pay-roll tax to five per cent of all taxable wages.
35	State Employees (Long-Service Leave) (A1950 and A (No. 2) 1968)—miscellaneous amendments.
36	Status of Children—removed the legal disabilities of children born out of wedlock.
37	Traffic (A1925 and A1961)—miscellaneous amendments relating to public vehicle licences.
38	Marine (A1921)—miscellaneous amendments relating to marine boards.
39	Podiatrists Registration—provisions for registration of podiatrists (chiropodists) and regulation of the practice of podiatry (chiropody), and amendments to the Ladies' Hairdressers and Beauty Culturists Act 1939.
40	Motor Accidents (Liabilities and Compensation) (A1973 and A (Temporary Provisions) 1974)—miscellaneous amendments.
41	Apple Industry (Assistance)—made grants for distribution to apple growers in respect of apples produced in the 1974 season and exported overseas.
42	Forestry (A1920)—amendments relating to offences under the Act.
43	Loan Fund Appropriation 1974-1975—issue and application of funds.
44	Licensing (Fees) (A1932)—raised fees payable under the Act.
45	Stamp Duties (A1931)—increased stamp duty on cheques and raised certain other stamp duties.
46	Consolidated Revenue Fund Appropriation 1974-1975—issue and appropriation of supplies.
47	Service Payments (Public Hospitals) Repeal (R1972).
48	Legal Practitioners (A1959)—amendment to provisions relating to certificates of satisfactory service as a judge's associate.
49	Radiographers Registration (A1971)—amendments relating to the Radiographers Registration Board.
50	Public Service (A1973)—extended provisions relating to absence from duty of females in relation to childbirth to female officers temporarily employed in the Public Service.
51	Crown Lands (Miscellaneous Provisions) (No. 2) (A1964)—closure of disused roads, sale of land, etc.
52	Fruitgrowing Industry Reconstruction Agreement (Further Supplemental Agreement)—authorised execution of an agreement (relating to removal of fruit trees) supplemental to agreements approved by the Fruitgrowing Industry Reconstruction Agreement Act 1972 and the Fruitgrowing Industry Reconstruction Agreement (Supplemental Agreement) Act 1973.
53	Marginal Dairy Farms Reconstruction (Supplemental Agreement)—authorisation of an agreement supplemental to the agreement approved by the Marginal Dairy Farms Reconstruction Act 1971.
54	Roads and Jetties (A1935)—amendments relating to application of the State Highways Trust Fund.
55	Land Tax (P Land and Income Taxation Act 1910)—set rates of land tax for 1974-75.
56	Wheat Industry Stabilization (RS 1968, 1969 and 1973)—provisions relating to the marketing of wheat and the stabilization of the wheat industry.
57	Hydro-Electric Commission (Power Development) (P Hydro-Electric Commission Act 1944)—authorisation of expenditure for specified power development purposes.
58	Prison (A1868)—provided for the granting of licences to prisoners authorising absences from gaol for special purposes.
59	Devonport Marine Board Loan (A1953)—raised borrowing powers of the Board.
60	Urban Public Transport Agreement—ratified and provided for the implementation of an agreement between the federal and state governments for the provision of financial assistance by the Australian Government for the improvement of urban public transport.
61	Real Property (A1862)—miscellaneous amendments.
62	Land Valuation (A1971)—persons selling trees growing on land of 50 hectares or more required to notify the Valuer-General.
63	Industrial Development (A1954)—amendment to provisions regarding powers of the Minister to guarantee the repayment of moneys borrowed by industries in order to facilitate their continued operation.
64	Noxious Weeds (A1964)—miscellaneous amendments.
65	Valuers Registration (A Land Valuation Act 1971)—regulation of the registration of valuers and control of the practice of valuation.
66	Electoral (A1907)—miscellaneous amendments.
67	Parliamentary Superannuation (A1973)—extended provision for payment of a child's pension.

## State Acts 1974—continued

Number	Short title and summary
68	Cancer Committee (A1937)—amendment to the constitution of the Committee.
69	Consolidated Revenue Fund Supplementary Appropriation 1973-1974—appropriation of a further sum for the service of the year.
70	Fruitgrowing Industry Reconstruction Agreement (A1972)—protection of members of Parliament under provisions of the Act.
71	Marginal Dairy Farms Reconstruction (A1971)—protection of members of Parliament under provisions of the Act.
72	Public Health (A1962)—gave the Minister power to prohibit the taking of fish or shellfish where considered that they may be injurious to the health of persons consuming them.
73	Tasmanian Trotting Association (A1961)—amendment allowing the Tasmanian Trotting Association to become a member of or affiliated with any other organisation.
74	Loan Fund Appropriation (No. 2) 1974-1975—issue and application of further moneys.
75	Audit (No. 2) (A1918)—repeal of instruction 15 of the Third Schedule (relating to salaries and allowances).
76	Police Offences (A1935)—prohibition of the setting of traps in cities or towns.
77	Fisheries (A1959)—amendments relating to the taking of seals.
78	Agricultural Show Societies and Sports Clubs (Guarantees) (A Agricultural Show Societies (Guarantees) Act 1960)—power of Treasurer to guarantee repayment of moneys borrowed by show societies extended to include sports clubs.
79	Don River Tramway—authorised and laid down conditions for the construction of a 3.2 kilometres tramway on the eastern side of the Don River.
80	Springfield Improvement (P1958)—provisions relating to advances made to the Glenorchy City Council and to certain works carried out by the Council.
81	Statutory Salaries—prescribed salaries to be paid to judges, the Auditor-General, the Crown Advocate, Magistrates and the Agent-General.
82	Police Regulation (A1898)—amendment relating to the Police Provident Fund.
83	Consolidated Revenue Fund Appropriation (No. 2) 1974-1975—issue and appropriation of funds.
84	Local Government (A1962, 1972)—amendments relating to the regulation of timber carting.
85	National Parks and Wildlife (A1970)—miscellaneous amendments.
86	Deceased Persons' Estates Duties (No. 2) (A1931)—amendments relating to duty payable, allowance for debts, moneys from friendly societies and valuation of shares.
87	St Lukes' Hospital Loan Guarantee (A1973)—raised the State guarantee of loan to the Board of Management of St Lukes Hospital.
88	Commercial and Inquiry Agents—provided for the licensing and control of commercial and inquiry agents.
89	Wrest Point Casino Licence and Development (A1968)—amendments relating to control of premises and exclusion of persons from the premises.
90	Registration of Deeds (A1935)—miscellaneous amendments.
91	Evidence (A1910)—miscellaneous amendments.
92	Supreme Court (A1959)—provisions relating to the Master, the Registrar and the Deputy Registrar of the Supreme Court.
93	Racing and Gaming (No. 2) (A1952, 1974)—miscellaneous amendments.
94	Stock (A1932)—miscellaneous amendments.
95	Stamp Duties (No. 2) (A1931)—provisions relating to duty payable in respect of insurance policies for motor vehicles.
96	Dairy Produce (A1932)—provisions relating to margarine and butter substitutes.
97	Housing Agreement (Supplemental Agreement) (P Housing Agreement 1973)—an act to enable an agreement between the federal and state governments relating to government assistance for housing to be executed and given effect.
98	Limitation—an act to consolidate (with amendments) certain enactments relating to the limitation of (court) actions and arbitrations.
99	Fire Brigades (A1945)—temporary provisions relating to the Fire Brigades Commission of Tasmania and fire brigade boards.
100	Pensioners' Rate Remissions Assistance (A Local Government Act) 1962—granting of financial assistance to municipal councils in respect of rates and certain charges remitted to pensioners.
101	Crown Lands (Miscellaneous Provisions) (No. 3) (P Crown Lands Act 1935)—grants and sales of land, etc.
102	Renison Limited (Zeehan and Renison Bell Lands) (A1970)—provided for the vesting of certain lands in, and the sale of certain Crown lands to, Renison Ltd.
103	Restricted Publications (R Objectional Publications Act 1954, A Police Offences Act 1935)—prohibition of the public display and sale to young persons of certain publications.



Number	Short title and summary
104	Child Protection—protection of young children who have suffered from beatings or other cruel treatment.
105	Fisheries (A1959)—provisions authorising the control and destruction of certain prohibited fish in inland waters.
106	Hobart Corporation (A1963)—extension of Salamanca Place Market season from the second Saturday in March to the last Saturday in April
107	Derwent Valley Hop Growers Co-operative Society Limited (Financial Assistance)—provision of financial assistance to the Society.
108	Justices (A1959)—miscellaneous amendments.
109	Legal Assistance (A1962)—amendment relating to exemption from fees payable to the State in relation to legal assistance.
110	Racing and Gaming (No. 3) (A1952)—provisions relating to soccer football pools.
111	Pyramid Selling—prohibition of pyramid selling.
112	Superannuation (No. 2) (A1938, 1968)—miscellaneous amendments.
113	Retirement Benefits (No. 2) (A1970, 1974)—miscellaneous amendments.
114	Marine (No. 2) (A1921, A Marine Board Loan Act 1936, Devonport Marine Board Loan Act 1946 and 1953, Hobart Marine Board Loan Act 1947, Circular Head Marine Board Loan Act 1950, Launceston Marine Board Loan Act 1951, Flinders Marine Board Loan Act 1952, King Island Marine Board Loan Act 1971)—miscellaneous amendments.
115	Tasmanian Museum (A1950)—provisions relating to the remains of Truganini.

## Chapter 4

### LOCAL GOVERNMENT

#### GENERAL

#### Historical

##### *Introduction*

In Tasmania, the functions of local government are more restricted than in some other countries as the State Government takes direct responsibility for important services such as the police, education, housing, public transport, etc. This peculiarity is not confined to Tasmania and is encountered in the other Australian States, where central control is exercised over functions often delegated to local government authorities in overseas countries; the origin of this tendency probably lies in early colonial history when the continent was virtually empty but the apparatus of government existed at each of the new coastal settlements (Sydney, Hobart, Perth, Melbourne, Adelaide and Brisbane, in order of age). In the Australian situation strong central administrations came first. Local government was a much later growth, the initiative for its creation often coming from the central administration itself in the respective colonies.

The first division of Tasmania into local administrative districts occurred in 1827 when the Colony was split into nine police districts; each district was under the control of a magistrate whose functions were primarily disciplinary and connected with administering the convict system. From then, the development of local government in Tasmania followed three distinct phases as outlined below.

##### *Hobart and Launceston*

From 1835 to 1857 several acts were passed relating to the local government of Hobart and Launceston—Hobart Town was granted elected commissioners in 1846, and under an Act of 1852, both Hobart and Launceston were given elected municipal councils. In 1857 the City of Hobart was incorporated, as was the Town of Launceston one year later. Launceston was proclaimed a city in 1888. For the next 76 years these were the only two cities in the State, but in 1964 the number was increased to three when Glenorchy was granted city status.

The form of local government in Hobart and Launceston is governed by separate corporation acts for each authority; in the case of Glenorchy, however, its operation as a city is provided for in the *Local Government Act 1962*.

##### *Rest of State before 1906*

The first step towards the creation of rural municipalities came with the *Rural Municipalities Act 1858*. Between 1860 and 1863, 16 municipalities had been proclaimed but the nine police districts were also retained under magisterial control. The Act of 1858 was repealed in 1865 and a new *Rural Municipalities Act* became law. The State was then divided into thirty municipal districts with defined boundaries. However, only 19 of these actually had councils. One more district was added in 1880. The City of Hobart and the Town of Launceston were exempted from the Act.

By 1906 there were, in addition to the city councils for Hobart and Launceston and the municipal district councils, many boards and trusts in Tasmania created for specific local government purposes. These had been formed in respect of water, drainage, roads, rabbits, health, fruit, recreation grounds, schools, works and other matters. There were in existence 105 road trusts, 19 rural municipalities, 23 town boards and 2 city councils; a total of 149 local authorities.

#### *Rest of State after 1906*

The *Local Government Act* 1906 abolished all rural municipalities, town boards, water trusts, main road districts, etc. and replaced them with municipalities which took over the administration of all the local government functions previously administered by the numerous local bodies. Section 10 of the Act provided that a commission should divide the State into not more than 60 districts to be later proclaimed municipalities. The commission reported in 1907 and recommended that the State be divided into fifty municipalities. These did not include the cities of Hobart and Launceston which were governed respectively by the *Hobart Corporation Act* 1893 and the *Launceston Corporation Act* 1894. The above recommendations were carried into effect by proclamation of the fifty municipalities. Subsequently, three of the municipalities were amalgamated—Queenborough and New Town with Hobart, and Invermay with Launceston. Since Glenorchy became a city in 1964 no other changes have taken place. Hence, there are 46 municipalities and three cities in existence at the present time. Apart from the enlargement of Hobart and Launceston caused by the above amalgamations, the boundaries are still substantially the same as those proclaimed in 1907, although there have been numerous relatively minor boundary changes since then.

### **Inquiries Into Local Government**

#### *Royal Commission 1938*

A Royal Commission was set up in December 1938 to inquire into and report upon certain aspects of local government in Tasmania. It issued its report on 11 August 1939. Recommendations covered administration and finance, the bases of valuation and assessment, the best form of local government, the number of municipal bodies, wards, the system of rating and co-ordination between municipal and State governments. One of the specific recommendations was that the number of municipal bodies should be reduced to two cities, three urban municipalities and thirty-four rural municipalities.

The specific amalgamations recommended by the Commission in 1939 were: (i) Gormanston with Queenstown; (ii) Strahan with Queenstown; (iii) Tasman with Sorell; (iv) Spring Bay with Glamorgan; (v) Portland, part to go to Fingal and the remainder to Ringarooma; (vi) Green Ponds, part to Bothwell and the balance to Brighton; (vii) Lilydale with George Town; (viii) Ross with Campbell Town; (ix) Richmond with Brighton; and (x) St Leonards apportioned between Launceston, Lilydale and Evandale. In addition the Royal Commission also recommended severing the rural portion of Burnie and amalgamating it with Penguin. However, these recommendations were never implemented.

#### *Select Committee 1960*

On 16 November 1960, a select committee of the House of Assembly was appointed to inquire into and report on local government. One of its terms of reference was 'whether amalgamation of certain municipalities would be of advantage to local government administration by creating greater efficiency and cutting down administrative costs'. It made its report on 1 August 1961. In relation to the above term of reference, the Committee recommended that it was essential that

there be a reduction in the number of municipalities in Tasmania and that to achieve this all boundaries should be reassessed as a matter of urgency by qualified experts, having regard to geographic, economic and population conditions. It further stated that it believed that a reduction in municipalities by approximately half would be the eventual means of creating greater efficiency within the municipalities and would cut administration costs.

#### *Municipal Commission 1962*

In 1962 the *Local Government Act* was passed; this statute repealed the 1906 *Local Government Act* and other legislation relating to local government and consolidated the legislation in one Act. The 1962 Act also included provision for establishment of a Municipal Commission to inquire into and report on local government administration in Tasmania. The Commission submitted its report in 1965 in which numerous amalgamations and boundary changes were recommended. If the changes had been put into effect there would have been two cities and 18 other municipalities, however, as a result of protracted litigation the State Government decided to amend the provisions of the 1962 Act under which the Commission was constituted. The 1965 report was not acted upon and the Commission was disbanded in March 1971.

#### *Municipal Commission 1972*

In 1971 amendments were made to the *Local Government Act* 1962 in relation to appointment, functions and powers of a new Municipal Commission. The new Municipal Commission was appointed on 31 May 1972. Apart from dealing with routine matters, the Commission was required to inquire into and report on any matter or question relating to local government referred to it by the Minister for Local Government. The Minister gave the Commission the following terms of reference:

- (i) Whether there should be creation, abolition, amalgamation or partitioning of any municipality.
- (ii) To inquire into and report on: (a) functions of municipalities and whether financial resources available are sufficient for these purposes; (b) basis of municipal rating and whether changes are needed; (c) whether the present pattern of municipal boundaries contributes to their financial problems and whether re-arrangement of boundaries would improve the situation; (d) means of increasing financial resources available to municipalities.
- (iii) Division of the State or any part of the State into counties or regional areas and, if desirable, how best to achieve the division. In the event of this type of partition being recommended the Commission was to state: (a) the functions, powers, responsibilities, composition, method of appointment, etc. of the governing body; (b) effect of the appointment of such bodies upon existing municipalities.

The 1972 Municipal Commission met for the first time on 14 July 1972 and presented its completed report to the Minister for Local Government on 28 March 1974. Evidence had been taken from each municipality, federal and state government authorities and other interested parties. The main recommendations made in the Commission's Report are summarised below (a more detailed account of the Report is contained in the 1975 *Year Book*).

*Recommendations:* The Commission did not favour the establishment of an extra tier of government in Tasmania by division of the State into counties or regions (at a higher level than municipalities). However, extensive amalgamations and

boundary re-arrangements of municipalities were recommended. If implemented, the latter proposals would have reduced the number of local government authorities by 14 (from 49 to 35) and extended the boundaries of Launceston City to incorporate most of the urban development around Launceston. The Commission reached the conclusion that the pattern of municipal boundaries in Tasmania was such that there must be some wasteful expenditure and a lower level of efficiency than would be obtained by some re-arrangement of the boundaries.

With regard to municipal finances, the Commission concluded that significant additional income could be tapped from existing sources but that this would not be sufficient to overcome serious revenue deficiencies. It was considered that the most probable new source of increased revenue would be direct grants from the Australian Government.

*The Local Government Act 1962* provides that municipal rates levied be based on either the assessed annual value, the unimproved value, the capital value or on a composite of the unimproved value plus a proportion of the capital value of the land. (The assessed annual value is the gross annual income, at the time of valuation, that the person owning the land might obtain by letting the land and its appurtenances to a tenant.) The same rate in the dollar applies irrespective of the value of the land. The Municipal Commission recommended that the provision for a composite value as a basis for rating be deleted from the Act and that 'the Act be amended to provide for a progressive system of rating in accordance with an appropriate formula to be utilised at the discretion of councils'.

The Commission believed that there was merit in having a limited progressive system of rating (similar to that operated by the State Government in respect of land tax) so long as the Australian Government allowed concessional deductions for income tax purposes.

Release of the recommendations of the Municipal Commission caused an immediate unfavourable reaction in most of the municipalities affected by the proposed boundary changes. In August 1974, the State Parliamentary Labor Party met to consider the Commission's Report and decided that it should not be acted upon. As a result, the Report was not placed before Parliament for consideration.

### Local Government—Present Organisation

#### *Authority and Functions*

The authority for, and the forms of, local government are prescribed entirely by State legislation which has largely been consolidated in the *Local Government Act 1962*. Hobart and Launceston cities operate under separate corporation acts but the other authorities, including the City of Glenorchy, operate under the Act of 1962.

The functions of the municipalities are set out in broad general terms in Section 176 of the *Local Government Act* as:

'A Municipality: (a) may for the welfare and good government of its district and the inhabitants thereof: (i) make by-laws; (ii) undertake, make and maintain works, buildings and services; and (iii) order and dispose the common affairs of its members; and (b) shall cause the Queen's peace to be kept and maintained within its districts.'

Particular authority is given by Section 180 for a council clerk to be a deputy clerk of the peace, registrar of the court of general sessions and clerk of petty sessions in his municipality.

In addition, by certain acts, the municipalities are given specific responsibilities, e.g. *Health Act*, *Local Courts Act*, etc.

### *Administration of Justice*

This responsibility of the municipality to administer the lower courts of justice is confined to Tasmania. It would appear to be a carry-over from the very early days of local government when the municipality was also required to provide the police force. In all other states the administration is in the hands of a state department. The practice here would now appear to be continued by reasons of expediency. (It should be noted that the process of removing this function from the municipalities has already commenced and the lower courts in the cities of Hobart, Launceston and Glenorchy and the municipalities of Burnie, Clarence Kingborough and St Leonards are administered by the State. It should also be noted that where municipalities administer the courts, they receive all fines into their revenue and in some instances the council clerks receive additional salary for this court work.)

### *Electors*

Persons eligible to vote in local government elections consist of owners or occupiers of rateable land and their spouses together with ex-servicemen all of whom must be natural born or naturalised British subjects over the age of 18 years.

In Tasmania, a system of plural voting was employed in which the number of votes per elector was proportional to the assessed annual value of the particular property. However, in 1972 the *Local Government Act* 1962 was amended and plural voting abolished; an elector may exercise, at the most, three votes—one vote in his own right and two votes on behalf of other persons. Each spouse elector and ex-serviceman elector has one vote.

South Australia and Western Australia still have plural voting for local government elections, while New South Wales, Victoria and Queensland employ the principle of a single vote per owner-occupier. In states with plural voting, entitlement scales are comparatively low (having been set many years ago) so that a majority of electors are actually entitled to the maximum number of votes.

In no Australian state are unnaturalised aliens, who are owner-occupiers, eligible to vote at local government elections; Tasmania is the only state with a provision for aliens to have another person vote on their behalf.

### *Councillors*

A councillor must be an elector of, and either reside in, or carry on business in, the municipality and is subject to disqualification for certain breaches of conduct. The term of office is three years and one-third of the council retires each year. Councils may comprise six, nine, 12 or 15 councillors. The warden, deputy warden and treasurer are elected by the council members on an annual basis. (The electors of the City of Hobart elect the Lord Mayor and in Launceston and Glenorchy the electors elect the Mayor.) The office of warden is comparable with that of the mayor of a city or the president of a shire in other states.

### *Government Intervention*

For any of a number of reasons, the Minister administering the *Local Government Act* may consider it necessary to recommend suspension of the elected councillors and the appointment of a commission, or in certain cases an administrator, to carry on municipal government in a particular municipality.



*Cities, Municipalities and Towns*

In Tasmania there are only two categories of local government; a municipality or a city. The Act provides for the establishment of towns and indicates requirements before such towns are proclaimed but these are not municipal administrative units. Generally an area is proclaimed as a town to bring into action certain provisions relating to rating and to building requirements. Before a municipality can petition for a town to become a city, the town must have had, for five years before the petition, a population of not less than 20 000.

Other than this population requirement for a city there are no provisions, such as exist in some of the other states, for enlarging or diminishing the status of municipalities to accord with increasing or decreasing population.

*Sources of Revenue*

There are four main sources of local government revenue, namely rates, government grants, business undertakings and services. The rates are levied at so much in the dollar on the assessed annual value without any fixed maximum. Receipts from rates have not for sometime met the expense of the increasing range and cost of the services supplied. Government grants are a recognised means of increasing the revenue of municipalities.

The municipalities are unable to collect any rates for land owned by the Crown but services, where provided, are paid for. Grants and subsidies are made, generally speaking, to assist the municipalities to meet the overall costs of municipal government and sometimes the grant is made to assist in a particular project. Grants are sometimes made to induce the councils to provide or develop certain services and may also be made to assist in paying the costs of particular services shared by two or more adjoining municipalities. Earnings from business undertakings include charges for the supply of water and for the use of abattoirs. Some of these businesses show a small profit but, in most cases, the fees demanded are just sufficient to cover the cost of providing the services.

In the matter of water supply, where a number of local government areas could be served from a common source, the State Government did not consider a system of individual grants adequate and created two statutory authorities to act as 'wholesalers', the affected local government authorities acting as 'retailers'. This development is described later in the chapter under 'Water Supply and Sewerage'.

**PLANNING AUTHORITIES****Town and Country Planning Commissioner's Office***Introduction*

Before the federal Labor Government took office in 1941, governments (both state and Australian) had shown little interest in town planning legislation. The war-time federal Labor Government encouraged activity in this field and in the period 1944-45 four states, including Tasmania, passed legislation with provisions largely based on existing British and New Zealand planning statutes.

Passed in 1944, the *Tasmanian Town and Country Planning Act* applied only to areas which were proclaimed as a result of municipal requests. The Act created the position of Town and Country Planning Commissioner and made him responsible to the Minister for Lands and Works. In 1962 the *Town and Country Planning Act* was repealed and its provisions incorporated in Part XVIII of the *Local Government Act* 1962 under which the powers of the Commissioner were broadened so that, with the approval of the Minister, he could require any municipality to prepare a planning scheme.

The Governor appoints the Commissioner for a period not exceeding five years. The Commissioner is also a member of the following bodies: the Building Regulations and Nomenclature Boards; and the Co-ordination of Mapping Committee.

The Town and Country Planning Commissioner's office exercises statutory power in its own right but for administrative convenience it is regarded as a branch of the Public Works Department. The office consists of the Commissioner, the Deputy Commissioner and a small staff. The Town and Country Planning Commissioner's office should not be confused with the Southern Metropolitan Master Planning Authority, described next in this chapter.

### *Functions*

Briefly the function of the Commissioner is to approve municipal planning schemes and to certify that sub-division proposals are in accordance with the schemes and meet the other requirements as laid down in the *Local Government Act* 1962. Also the Commissioner may require: (i) any municipality to prepare a planning scheme; or (ii) two or more municipalities to co-operate in the preparation of a master planning scheme; he is empowered to specify the completion date for such schemes. If the municipality fails to comply with the Commissioner's requests, then the Commissioner may prepare a scheme, the municipality meeting all preparation costs. A municipality may voluntarily prepare a planning scheme and submit it to the Commissioner for approval. If a scheme, prepared for an area to which a master plan applies, is submitted to the Commissioner for approval then the Commissioner, before giving a decision, must consult the authority which prepared the master plan.

The Commissioner is also empowered to deal with objections to any planning scheme, including master plans prepared by a master planning authority.

### *Legal Procedure for a Planning scheme*

After the Commissioner gives provisional approval to a planning scheme the municipality must make public the scheme and place a copy in the municipal office for public inspection. Following public notification a three month period is allowed for objections to the scheme by: (i) any owner or occupier of rateable property in the area affected; (ii) health officers as defined in the *Public Health Act* 1962; (iii) the municipality, but only if the scheme has been altered or prepared by the Commissioner. Objections are lodged with the municipality which then forwards the objections, together with a statement of its opinion on them, to the Commissioner for his consideration. The Commissioner hears all the objections except in such cases where he considers the objection sound and the municipality agrees with it. The municipality may request and be entitled to a formal hearing.

If, because of the number and magnitude of objections to a planning scheme, the Commissioner considers it should be substantially modified, he may: (i) recommend that the Minister reject it; (ii) direct that a specified part of the scheme be done again. In both of these cases another scheme or part scheme has to be prepared and submitted to the Commissioner for provisional approval.

After all objections have been dealt with and the necessary modifications made to the plan, the Commissioner, with the Minister's approval, approves and seals the scheme. The sealed scheme is then publicly notified, placed before both Houses of Parliament and recorded in the central plan register.

*Scope of Plan*

A town and country planning scheme may deal with the following planning matters: (i) all roads (public and private), streets, footpaths, building lines and land adjacent to foreshores; the plan should cover both alteration to existing roads, streets, etc. and proposed new roads, streets, etc.; (ii) positioning of buildings and the general nature and design of buildings; (iii) preservation of land for afforestation, recreation and open spaces; (iv) preservation of objects of historical or natural interest; (v) sewerage and drainage; (vi) lighting and water supply systems; (vii) specification of the use to which areas may be put; (viii) provision of amenities; (ix) stages of development; (x) ancillary or consequential works.

*Sub-division Approvals*

Except where the Commissioner authorises a council to deal with sub-division plans, all such plans submitted to the council must be forwarded to the Commissioner for approval. (At any time a council's power to authorise sub-division plans without reference to the Commissioner may be withdrawn by him.) When considering sub-division plans the Commissioner may: (i) call for an amendment that either the council requires or the Commissioner considers the principles of town and country planning demand; or (ii) refuse consent to the council approval. The Commissioner is to ensure that areas for public use are retained along sea and lake shores and rivers and rivulets.

*Proposed State Planning Commission*

New legislation to provide for the establishment of a State Planning Commission with responsibility for the preparation of a State Strategic Policy Plan and with powers to effect a co-ordination of development was brought before Parliament in early 1975 and was to be re-introduced later in the year.

**Southern Metropolitan Master Planning Authority***Introduction*

The Southern Metropolitan Master Planning Authority is responsible for planning the development of an area best defined broadly as a triangle based on Pontville (Brighton Municipality), Snug (Kingborough Municipality) and Seven Mile Beach (Clarence Municipality), which includes the City of Glenorchy and also those parts of Brighton, Kingborough and Clarence Municipalities which are likely, in the future, to experience urban expansion because of their proximity to Hobart.

*Representation and Finance*

The *Local Government Act* 1962 prescribes that each city shall have the right to appoint three representatives and each municipality two representatives to the authority. The authority is empowered to make contracts, accept trusts of properties for town planning purposes, make by-laws for domestic purposes and obtain a town planning contribution based on the annual value of all rateable property.

In March 1973 the Hobart City Council petitioned to withdraw from the authority. At a meeting of the authority in April it was decided to: (i) recommend to member councils that the authority be continued; and (ii) advise the Hobart City Council that the authority was prepared to continue to meet Hobart's mapping requirements, subject to a satisfactory financial arrangement being agreed to. Hobart withdrew from the Authority in August 1973.

### *Functions of the Authority*

The main functions of the Authority are: (i) the technical and legal preparation of a master plan for the prescribed area (the detailed planning nevertheless remaining the responsibility of each constituent municipality or city); (ii) the conduct of surveys and studies to facilitate the preparation of the master plan; and (iii) preparation of maps of the developed and developing parts of the metropolitan area.

### *The Master Plan*

The Master Plan 1962 was put up for statutory exhibition (for a compulsory period of three months). Following objections the Authority withdrew the plan and the State Government decided to undertake a full transportation study, the results of which became available late in 1964. An interim 'Town Planning Policies Map 1964' was issued as a guide to member councils in their detailed planning and to other authorities concerned with development in the Southern Metropolitan Area.

### *Strategy Plan*

In March 1975 the State Planning Co-ordinator issued a brief to the Authority for the preparation of a Hobart Metropolitan Area Strategy Plan. This Plan was developed in conjunction with the preparation of the State Strategy Plan and presented alternative growth form strategies and an assessment of their planning implications for the metropolitan area. For the purposes of this Plan the functional metropolitan area was considered to include urban parts of the City of Hobart and the municipalities of New Norfolk, Richmond and Sorell which are not within the area under the authority of the Southern Metropolitan Master Planning Authority.

### **Tamar Regional Master Planning Authority**

The Tamar Regional Master Planning Authority was established in September 1969, following a petition to the State Government by the City of Launceston and the Municipalities of Beaconsfield, George Town, Lilydale, Longford and St Leonards. Westbury and Evandale, two essentially rural municipalities, became members in April 1974 to complete the membership of the natural region.

The Authority consists of three representatives from the Launceston City Council and two from each of the member municipalities. Financial support is given by the constituent councils, in proportion to the annual value of rateable property.

The principal objective of the Authority is the unified promotion and development of the Tamar Valley region. A consortium of town planning consultants was engaged to produce a preliminary plan which was completed in mid-1971. This plan is the basis for the regional plan being developed by the Authority's staff. The basic approach to the plan has been to consider the region as four principal divisions aligned north to south along the Tamar-South Esk Rivers:

- (i) *Northern Tamar*—centred on the Port of Bell Bay and the Tamar Entrance. The principal theme of this area is the development of industrial potential and port facilities.
- (ii) *Central Tamar*—extends from Moriarty Reach to Dilston. It is proposed that this region should be promoted as a recreation and tourist area, and that the existing scenic landscape should be preserved.

- (iii) *Southern Tamar*—centred upon Launceston and contains the urban and administrative centre of the region. In this area tertiary industry, professional services, education facilities, trade and commerce are to be developed.
- (iv) *Esk Valley*—in this area the proposal is to rationalise transport links and develop transport oriented industries along with promotion of its intensive agricultural production potential.

The major regional planning policies were completed in 1974 and considered by the constituent councils. During 1975 the final adopted policies were compiled into a strategic planning policy and submitted for Government approval.

During this period the draft regional plan served as the basis for initiatives in planning action and expenditure directed towards the development of the State Strategy Plan.

#### North-West Master Planning Authority

This Authority was constituted in February 1971 in accordance with provisions of the *Local Government Act* 1962. The eight member municipalities are Latrobe, Kentish, Devonport, Ulverstone, Penguin, Burnie, Wynyard and Circular Head. Constituent councils each have two members on the Authority. Finance is obtained from member municipalities in proportion to the annual value of rateable property.

Approximately 9 000 square kilometres in area and containing a population of some 87 000, the Authority's sphere of jurisdiction includes the two interstate airports, three marine board port facilities (out of the five in Tasmania), substantial industrial establishments with international markets, nine principal towns with two approaching city-status, and prime soil districts supporting livestock and vegetable production. Although exhibiting only a gradual annual increase in population, it is nevertheless the fastest growing region in the State.

The fundamental objective of the Authority is to foster, co-ordinate, and promote the development of the region along sound economic and environmental lines. Under the State legislation, it has the responsibility to prepare a statutory master plan for the region and has recently undertaken work towards production of the State Strategy Plan.

A firm of planning consultants undertook a comprehensive survey of the region, and an Outline Development Report was published in October 1973. Since then, feedback from the constituent councils, the public, special interest groups, and a 10-week seminar on regional planning conducted by the Burnie Adult Education Board has begun to crystalize thoughts towards strategy programmes for the north-west region.

An initial policy adopted by the Authority was to inhibit further linear expansion along the coast and to focus development inwards from the existing urban nodes, with the rural landscape in between serving as punctuating relief. This has been schematically illustrated in an Outline Development Strategy Map and Report released in November 1974. The Authority has also endorsed the concept of Burnie being the cultural and arts centre for the north-west and west coast of Tasmania as a regional complement to the major facilities provided in Launceston. In addition, concerted support has been accorded the unique and ambitious 9 000-hectare Dial Regional Sports/Recreation Complex now being implemented in the central location of Penguin.

## FINANCE

## Introduction

For local government purposes Tasmania is divided into 49 areas, comprising 46 municipalities and the Cities of Hobart, Launceston and Glenorchy. There are no unincorporated areas.

Local government finance statistics in Tasmania are compiled by the Australian Bureau of Statistics from the following sources:

(i) *The 46 Municipalities*: Each municipality is required to submit annually to the Auditor-General a 'Statement of Accounts' in pursuance of section 329 of the *Local Government Act 1962*; copies of these statements are made available to the Bureau. The 'Statements of Accounts' are compiled by most municipalities on a *cash receipts and payments* basis and two basic types of accounts are distinguished, namely revenue and loan accounts. Recently the Kingborough Municipality has changed to an *income and expenditure* basis like the three cities.

(ii) *The Cities*: The Cities of Hobart, Glenorchy and Launceston submit annually to the Auditor-General statements of accounts compiled on an *income and expenditure basis* but these are analysed on a cash receipts and payments basis by the Bureau for combination with municipal data.

The term 'local government' is employed only in relation to the municipalities and city corporations. Details of semi-government authorities concerned with water supply appear in the last section of this chapter; such authorities provide bulk water but reticulation and sale to householders remain local government functions. Since 1961 the Metropolitan Water Board has incurred loan debts which, under earlier arrangements, would have been entered as the water loan debts of Hobart, Glenorchy, Clarence and Kingborough local government authorities.

## Value of Property

Revenue for local government authorities in Tasmania is derived principally from rates. Under the *Local Government Act 1962*, rates may be based on annual value (i.e. annual rental from a property if rented), unimproved value (i.e. value of land only), the capital value (i.e. value of land plus improvements), or finally upon a composite value incorporating the unimproved value plus some arbitrary proportion of the value of improvements.

In Tasmania, it has been usual for rates to be based on annual values despite isolated and unsuccessful campaigns in favour of taxing on unimproved value only. In estimating annual value, the valuer is taking into account not only the land but also the improvements (e.g. buildings) so there is, in actual fact, a close relationship between total capital value of any property and its assessed annual value. The *Land Valuation Act 1971* consolidated and amended the law relating to land valuation.

## System of Valuation

The valuation of property is carried out by a State Government authority, the Land Valuation Branch; its valuations form the basis of two distinct taxes: (i) land tax collected by the State on the basis of unimproved land values; (ii) rates collected by local government authorities on the basis of assessed annual values. Since it is impossible to value all the properties within the State in the course of a single year, valuation is carried out on a rotational basis, e.g. Hobart, Clarence and Ulverstone were valued in 1969 and again in 1974.



The following table shows the total value of all properties in the State and gives individual details for local government authorities with a total capital value exceeding \$20m at 1 July 1974:

**Value of Properties: Principal Local Government Authorities at 1 July  
(\$ Million)**

Local government authority	Year of revaluation (a)	Total capital value		Unimproved value		Assessed annual value	
		1973	1974	1973	1974	1973	1974
Hobart ..	1974	380.57	514.15	117.56	165.82	24.83	35.97
Clarence ..	1974	149.37	253.28	40.68	80.91	8.72	15.45
Glenorchy ..	1973	208.33	213.65	56.99	57.39	15.71	16.09
Launceston ..	1970	173.12	175.34	56.06	56.16	14.01	14.16
Burnie ..	1970	109.27	111.21	33.21	33.39	6.81	6.93
Devonport ..	1972	106.36	110.72	36.32	36.66	6.70	6.95
Beaconsfield ..	1974	42.02	63.92	8.19	15.67	2.58	3.97
Kingborough ..	1972	56.84	62.44	17.07	17.99	3.48	3.84
St Leonards ..	1971	57.18	59.09	12.05	12.24	4.00	4.11
Ulverstone ..	1974	43.75	59.00	9.70	14.88	2.63	3.32
New Norfolk ..	1971	49.42	49.99	7.43	7.49	2.68	2.71
Wynyard ..	1972	44.82	46.38	10.15	10.31	2.56	2.65
Circular Head ..	1973	44.82	45.43	8.11	8.12	2.31	2.33
George Town ..	1972	34.78	35.53	5.69	5.71	2.20	2.24
Longford ..	1974	27.92	31.22	5.30	6.16	1.40	1.71
Latrobe ..	1971	29.67	30.36	4.78	4.82	1.54	1.56
Westbury ..	1973	26.81	27.77	5.07	5.08	1.37	1.44
Lilydale ..	1971	26.77	27.45	5.68	5.71	1.76	1.81
Deloraine ..	1971	24.55	24.84	3.66	3.68	1.21	1.22
Scottsdale ..	1972	21.93	22.55	4.32	4.33	1.12	1.19
Oatlands ..	1971	21.53	21.51	4.33	4.33	0.90	0.90
Sorell ..	1972	21.23	21.28	5.42	5.46	1.04	1.04
Huon ..	1970	21.01	20.93	3.05	3.06	0.99	0.99
Remaining municipalities ..	..	273.84	288.98	50.57	53.81	14.06	14.83
Total Tasmania	..	1 995.91	2 317.03	511.39	619.19	124.61	147.41

(a) Latest revaluation effective from 1 July of year shown.

The table that follows shows the value of property in Tasmania over the last 10 years.

**Total Property Valuation in All Local Government Areas at 1 July  
(\$ Million)**

Year	Total capital value	Unimproved value	Assessed annual value	Year	Total capital value	Unimproved value	Assessed annual value
1965 ..	1 202.22	316.91	r 69.80	1970 ..	1 691.37	441.88	r 102.98
1966 ..	1 271.87	328.50	r 74.44	1971 ..	1 768.07	454.47	r 107.78
1967 ..	1 350.74	350.81	r 79.34	1972 ..	r 1 874.17	r 483.44	r 114.86
1968 ..	1 452.38	374.49	r 86.35	1973 ..	1 995.91	511.39	124.61
1969 ..	1 571.96	411.72	r 95.57	1974 ..	2 317.03	619.19	147.41

### Total Receipts and Payments

The following table shows total receipts and payments of the Tasmanian municipalities and cities:

**Local Government Authorities**  
**Total Receipts and Payments: All Funds**  
**(\$'000)**

Year	Receipts			Payments			Surplus (+) or deficit (-)
	Loan accounts (a)	Revenue accounts (b)	Total	Loan accounts	Revenue accounts	Total	
1967-68 .. ..	9 611	21 708	31 320	9 325	20 942	30 267	+1 053
1968-69 .. ..	8 682	23 959	32 641	8 634	23 249	31 883	+ 758
1969-70 .. ..	7 469	25 914	33 383	7 972	24 816	32 788	+ 595
1970-71 .. ..	8 164	28 236	36 400	7 494	27 195	34 689	+1 711
1971-72 <sub>r</sub> .. ..	8 574	31 521	40 095	8 486	31 022	39 508	+ 587
1972-73 .. ..	9 473	37 374	46 848	9 857	34 966	44 823	+2 025

(a) Includes loan raisings, sales, capital grants received, etc.

(b) Includes grants from the Metropolitan Water Board to cover working expenses.

### Business Undertakings

The classification 'business undertakings' is used in Australian local government finance statistics to include municipal tram and bus services, municipal electricity supply (generation or distribution), municipal water and sewerage schemes, municipal abattoirs, etc. In Tasmanian local government finance statistics, electricity supply ceased to appear as from 1948-49 (the Hydro-Electric Commission is now the sole supplier). Municipal tram and bus services ceased to appear as an item in 1955-56, the Metropolitan Transport Trust having acquired the city transport services operating in Hobart and Launceston. Consequently, the only activities under the heading of municipal 'business undertakings' in current Tasmanian statistics relate to water supply, sewerage and abattoirs.

### Rate Collections

The following table shows details of the rates collected in Tasmania during a three-year period:

**Rates Received (a) by Local Government Authorities**  
**(\$'000)**

Rate	1970-71	1971-72 <sub>r</sub>	1972-73
<b>Ordinary services (b)—</b>			
General .. . . .	5 293	6 557	7 560
Light .. . . .	259	234	214
Road .. . . .	4 257	4 320	4 795
Health .. . . .	377	349	423
Sanitary and garbage .. . . .	254	292	348
Recreation, reserves, halls and community centres .. . . .	1 035	1 010	1 130
Library .. . . .	145	148	173
Fire brigade .. . . .	144	175	205
Drainage .. . . .	119	141	153
Other .. . . .	66	125	114
<b>Total .. . . .</b>	<b>11 950</b>	<b>13 349</b>	<b>15 116</b>
<b>Business undertakings—</b>			
Water .. . . .	3 910	3 947	4 325
Sewerage .. . . .	2 673	2 975	3 344
<b>Total .. . . .</b>	<b>6 583</b>	<b>6 922</b>	<b>7 669</b>
<b>Grand total .. . . .</b>	<b>18 533</b>	<b>20 271</b>	<b>22 784</b>

(a) Net of refunds.

(b) Where a single consolidated rate has been charged (e.g. Hobart and Launceston), the collection has been dissected between 'ordinary' and the two 'business undertakings' components but the 'ordinary' component has been entered, without further analysis as 'general'.

### Revenue of Local Government Authorities

The biggest proportion of local government revenue comes from rates (61 per cent in 1972-73) which are direct charges on owners of property.

After rates, the next most important sources of revenue are: (i) government and semi-government grants; and (ii) charges for public works and services. The next table shows, for a three-year period, the total annual revenue receipts, according to source, of all municipalities and cities.

Local Government Authorities  
Revenue Fund Receipts: Ordinary Services and Business Undertakings  
Classified According to Source  
(\$'000)

Source of receipts	1970-71	1971-72 <sup>r</sup>	1972-73
Ordinary services—			
Rates .. .. .	11 950	13 349	15 116
Licences .. .. .	175	479	582
Total rates and licences ..	12 125	13 828	15 698
Public works and services—			
Recreational facilities, halls and community centres .. .. .	539	599	708
Cemeteries and crematoria .. ..	155	187	188
Parking .. .. .	634	731	816
Private and other works .. .. .	467	454	536
Other council properties .. .. .	1 168	504	676
Other .. .. .		377	511
Total .. .. .	2 963	2 852	3 434
Government and semi-government grants—			
Roads .. .. .	1 932	2 057	2 061
Other .. .. .	314	1 154	3 042
Total .. .. .	2 246	3 211	(a) 5,103
Other receipts (b) .. .. .	1 021	1 234	1 540
Total ordinary services ..	18 355	21 125	25 774
Business undertakings—			
Water supply— .. .. .			
Rates .. .. .	3 910	3 947	4 325
Government and semi-government grants .. .. .	1 604	1 575	1 558
Other .. .. .	549	613	708
Total .. .. .	6 063	6 135	6 591
Sewerage—			
Rates .. .. .	2 673	2 975	3 344
Government and semi-government grants .. .. .	152	184	262
Other .. .. .	223	241	292
Total .. .. .	3 048	3 400	3 897
Abattoirs, other (c) .. .. .	769	862	1 112
Total business undertakings ..	9 881	10 397	11 600
Grand total .. .. .	28 236	31 521	37 374

(a) Includes unemployment grants totalling \$2 692 000.

(b) Includes additions to sinking funds, interest earnings, net deposits, donations and tolls.

(c) Comprises fees charged, sales of products, etc.

**Revenue Receipts, Summary**

The preceding table does not show combined figures for all rates and government grants; totals for these items are included in the summary which follows:

**Revenue Fund Receipts: Ordinary Services and Business Undertakings**  
( '\$000 )

Year	All rates (net)	Licences	All govt and semi-govt grants	Business undertakings (a)	Ordinary services (a)	Other receipts	Total receipts
1967-68 .. ..	14 371	147	3 049	1 213	2 261	668	21 708
1968-69 .. ..	15 905	169	3 305	1 460	2 345	773	23 959
1969-70 .. ..	17 181	180	3 372	1 566	2 753	862	25 914
1970-71 .. ..	18 533	175	4 003	1 541	2 963	1 021	28 236
1971-72 <sub>r</sub> .. ..	20 271	479	4 970	1 716	2 852	1 234	31 521
1972-73 .. ..	22 784	582	6 922	2 112	3 434	1 540	37 374

(a) Excludes rates and grants which are shown separately.

**Revenue Payments by Local Government Authorities**

The following table shows annual payments by local government authorities from revenue funds:

**Local Government Authorities**  
**Revenue Fund Payments: Ordinary Services and Business Undertakings**  
**Classified According to Service**  
( '\$000 )

Payments for—	1970-71	1971-72 <sub>r</sub>	1972-73
Ordinary services—			
General administration .. .. .	2 544	2 807	3 068
Loan charges—Interest .. .. .	2 013	2 243	2 412
Redemption .. .. .	1 647	1 729	1 889
Sinking fund contributions ..	190	188	192
Total .. .. .	3 850	4 160	4 493
Public works and services—			
Recreational facilities, halls and community centres .. .. .	1 648	1 951	2 489
Roads, bridges and street construction ..	5 393	6 744	8 075
Garbage, sanitary, etc. .. .. .	674	801	894
Health and welfare .. .. .	416	461	492
Street lighting .. .. .	392	422	446
Parking .. .. .	502	445	453
Private and other works .. .. .	233	313	392
Other .. .. .	1 398	615	1 118
Total .. .. .	10 656	11 751	14 359
Grants .. .. .	701	839	872
Other payments .. .. .	—161	1 230	930
Total ordinary services .. .. .	17 591	20 788	23 723

**Local Government Authorities**  
**Revenue Fund Payments: Ordinary Services and Business Undertakings**  
**Classified According to Service—continued**  
**(\$'000)**

Payments for—	1970-71	1971-72 <sup>r</sup>	1972-73
Business undertakings—			
Water supply—			
Loan charges—Interest .. .. .	843	885	889
Redemption .. .. .	796	718	727
Sinking fund contributions	19	23	23
Total .. .. .	1 658	1 627	1 639
Other payments (a) .. .. .	4 322	4 443	5 007
Total water supply .. .. .	5 980	6 069	6 646
Sewerage—			
Loan charges—Interest .. .. .	1 239	1 356	1 521
Redemption .. .. .	582	629	672
Sinking fund contributions	38	48	62
Total .. .. .	1 859	2 032	2 255
Other payments (b) .. .. .	1 144	1 345	1 509
Total sewerage .. .. .	3 002	3 377	3 764
Abattoirs—			
Loan charges—Interest .. .. .	54	58	55
Redemption .. .. .	34	31	30
Sinking fund contributions	9	11	11
Total .. .. .	97	100	96
Other payments (b) .. .. .	524	689	738
Total abattoirs .. .. .	621	789	834
Total business undertakings ..	9 603	10 235	11 243
Grand total .. .. .	27 195	31 022	34 966

(a) Comprises grants paid to semi-government authorities (principally the Metropolitan Water Board), working expenses, capital expenditure out of revenue fund and sundry payments.

(b) Comprises working expenses, capital expenditure out of revenue fund and sundry payments.

The Beaconsfield Municipality is served by the West Tamar Water Supply Scheme, which the municipality maintains and manages as agent for the Rivers and Water Supply Commission. All debt in the municipality in respect of water supply became the responsibility of the Commission on 1 July 1960; interest and principal repayments to the Commission on loans raised for the purpose of this water supply have been included in 'Water Supply—Other Payments' in the previous table.

Launceston, Burnie, Devonport and Campbell Town operate municipal abattoirs; other abattoirs in Tasmania are operated by the private sector.

The next table gives a summary of local government revenue fund payments and shows the importance of debt charges (24.3 per cent of total payments in 1972-73) and expenditure on roads, streets and bridges (23.1 per cent).

**Payments: Ordinary Services and Business Undertakings**  
(\$'000)

Year	Adminis- tration (a)	Loan charges (b)			Other payments			Total
		Interest (c)	Redemp- tion (d)	Sinking fund contribu- tions	Ordinary services		Business under- takings	
					Roads, streets, bridges	Other		
1967-68 ..	1 753	3 159	2 235	233	4 687	4 425	4 450	20 942
1968-69 ..	1 968	3 512	2 619	243	4 784	5 039	5 084	23 249
1969-70 ..	2 217	3 858	2 789	250	4 850	5 353	5 500	24 816
1970-71 ..	2 544	4 149	3 059	256	5 551	5 648	5 989	27 195
1971-72 ..	2 807	4 542	3 107	270	6 744	7 076	6 477	31 022
1972-73 ..	3 068	4 877	3 318	288	8 075	8 086	7 254	34 966

(a) Administration charged to ordinary services only; includes interest on bank overdraft.

(b) Ordinary services and business undertakings.

(c) Excludes interest on bank overdraft.

(d) Includes redemption from sinking fund.

### Loan Receipts, Payments and Debt

At 30 June 1973 the aggregate loan debt of all local government authorities was \$84 781 000, of which only \$1 130 000 (i.e. 1.3 per cent) was in respect of debt due to the State Government. The principal Tasmanian sources of loans for local government authorities are banks, superannuation and various trust funds, insurance companies; and for cities, public issues. The amount that any local government authority can raise is governed by: (i) the difficulty in finding willing lenders; (ii) the fact that the approval of the State Treasury is required; and (iii) under the *Local Government Act 1962*, total loan indebtedness is strictly controlled and cannot exceed ten times the average annual income for the preceding three financial years.

The next table shows the loan account receipts of all local government authorities:

**Local Government Authorities: Loan Account Receipts**  
(\$'000)

Particulars	1968-69	1969-70	1970-71	1971-72 <sup>r</sup>	1972-73
Loan raisings for—					
Sewerage .. .. .	2 671	2 004	2 134	2 418	3 070
Road, street and bridge construction .. .. .	1 856	1 781	1 527	2 025	2 065
Water supply .. . . .	666	700	1 020	618	574
Recreational facilities .. .. .	530	578	587	823	614
Other .. .. .	1 910	1 731	1 696	1 377	1 829
Total raisings .. .. .	7 633	6 794	6 964	7 260	8 151
Government and semi-government grants .. .. .	697	418	681	900	917
Other receipts (a) .. .. .	350	258	519	414	405
Total receipts .. .. .	8 682	7 469	8 164	8 574	9 473

(a) Includes recoveries of capital expenditure, sales of materials credited to loan funds, contributions from the private sector credited to loan funds, etc.



The next table shows details of payments from the loan accounts of all local government authorities:

**Local Government Authorities: Payments from Loan Accounts**  
**Classified According to Purpose**  
**(\$'000)**

Purpose	1968-69	1969-70	1970-71	1971-72r	1972-73
Water .. .. .	1 227	1 108	1 603	1 587	1 118
Sewerage .. .. .	2 598	2 535	1 982	2 609	3 389
Drainage .. .. .	359	371	293	334	621
Road, street and bridge construction ..	2 048	2 046	1 915	1 947	2 179
Recreational facilities .. .. .	653	590	707	901	681
Halls and community centres .. .. .	202	220	128	144	132
Other .. .. .	1 548	1 101	867	965	1 737
Total .. .. .	8 634	7 972	7 494	8 486	9 857

The following table shows, in summary form, loan raisings, loan debt and sinking funds:

**Local Government Authorities: Loan Raisings, Loan Debt and Sinking Funds**  
**(\$'000)**

Year	Loan raisings during financial year			Loan debt at 30 June			Total of sinking funds at 30 June (c)
	From State Government (a)	From other sources (b)	Total	To State Government	To other creditors	Total	
1967-68 .. ..	79	8 104	8 183	917	61 903	62 821	1 496
1968-69 .. ..	35	7 599	7 633	917	66 922	67 839	1 706
1969-70 .. ..	44	6 751	6 794	934	70 918	71 854	1 893
1970-71 .. ..	179	6 784	6 964	1 052	74 826	75 878	2 162
1971-72 .. ..	50	7 276	7 326	1 063	78 844	79 907	2 451
1972-73 .. ..	78	8 074	8 151	1 130	83 652	84 781	2 788

(a) These advances were from the State Treasury direct, and exclude those from authorities such as the Housing Department and the Metropolitan Transport Trust.

(b) Includes advances from the Housing Department and the Metropolitan Transport Trust.

(c) Sinking funds maintained by municipalities and cities for debt redemption purposes.

### *Source of Loan Funds*

It can be seen from the preceding table that the local government loan debt includes only a small liability in respect of advances made by the State Treasury. The proportion of total debt owed to State authorities (but not directly to the Treasury) has increased in recent years, principally due to co-operation between individual municipalities and the State Housing Department. In planning the establishment of large housing estates, the Housing Department has been concerned with the provision of certain essential services (e.g. water and sewerage); where such services have required capital expenditure by a municipality, the Department has made some loan funds available.

### *Instalment Debentures*

Much of the debt of the municipalities is in the form of instalment debentures which involve equal periodic payments (usually half-yearly); such payments are allocated to redemption and interest in changing proportions as the loan approaches maturity.

### Employees of Local Government Authorities

The following table shows total employees of local government authorities over a five-year period. The number of employees of individual authorities ranges from over 500 persons to as low as one person.

Local Government Authorities: Persons Employed (a) at 30 June

Particulars	1970	1971	1972	1973	1974
General administration—					
Males .. ..	499	504	537	529	543
Females .. ..	202	220	221	222	235
Persons ..	701	724	758	751	778
All other services—					
Males .. ..	1 885	1 923	(b) 2 442	(b) 2 152	(b) 1 957
Females .. ..	58	37	20	37	29
Persons ..	1 943	1 960	2 462	2 189	1 986
Total—					
Males .. ..	2 384	2 427	2 979	2 681	2 500
Females .. ..	260	257	241	259	264
Persons ..	2 644	2 684	(b) 3 220	(b) 2 940	(b) 2 764

(a) Includes permanent and temporary employees but excludes part-time employees.

(b) Includes persons employed on local government work programmes financed by special Australian Government unemployment relief grants.

## WATER SUPPLY AND SEWERAGE

### Introduction

Water supply and sewerage were once exclusively the responsibility of the cities and municipalities; two semi-government authorities now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart and Launceston areas, and directly to certain industrial consumers.

*Metropolitan Water Board:* This semi-government authority is responsible for the supply of water in the Hobart, Clarence, Glenorchy and Kingborough local government authority areas. A detailed description of the Board's functions and financial relationships with the individual local government authorities is given in the next section of this chapter, 'Metropolitan Water Board'.

*Rivers and Water Supply Commission:* The *Water Act* 1957, proclaimed as from 1 September 1958, conferred on the Rivers and Water Supply Commission all powers which had been previously exercised by the Water, Sewerage and Drainage Board. The Commission exercises a general control over the utilisation of the State's water resources and has specific functions in relation to local government authority water, sewerage and drainage schemes. It also operates the North Esk Regional Water Supply, West Tamar Water Supply, Prosser River Supply and Cressy-Longford Irrigation Scheme. (Details of the last scheme appear in the chapter 'Primary Industry—Rural'). A more detailed description of the Commission's functions in relation to local government and of the three water supply schemes is contained in a later section, 'Rivers and Water Supply Commission'.

### Metropolitan Water Board

The overall control of water supply in Hobart, Clarence, Glenorchy and Kingborough is vested in the Metropolitan Water Board, but the four local government authorities retain primary responsibility for reticulation and sale to consumers. The Board has a large pumping station and treatment plant at Bryn Estyn on the Derwent, pipeline capacity being 136 megalitres per day. Before the Board came into operation in 1962, the four metropolitan local government authorities had their own supply schemes (e.g. Hobart was supplied from Lake Fenton and Mount Wellington); these schemes still operate but the Board's pumping works based on the Derwent now give an assured supply.

The Board also controls the Southern Regional Water Supply Scheme which draws water from the Derwent at Lawitta to supply Hobart's eastern shore suburbs. (Reticulation is, however, still the responsibility of the local government authorities.) On the eastern shore, the Board has now extended its service to the towns of Cambridge, Midway Point, Sorell, Seven Mile Beach, Lauderdale and Rokeby, while western shore extensions serve Margate, Snug and Howden.

#### Financial Relationship

Under the *Metropolitan Water Board Act 1961*, the four metropolitan local government authorities no longer borrow money for metropolitan water works, but are provided with the necessary capital by the Board which obtains its funds from private lenders and the State Loan Fund, the local authorities in turn being required to make revenue contributions to the Board. The effect of this arrangement can be seen in State local government loan debt tables where the debt in respect of water shows only very minor annual increases; in effect, the expenditure of the four metropolitan local government authorities for water works undertaken since 1961 is reflected in the debt of the Board and not in debts of the municipalities. At 30 June 1974, the loan debt of the Board to the State Treasury was \$16.88m and to other lenders \$6.32m.

The financial relationship between the Board and the four metropolitan local government authorities is summarised in the following table:

Metropolitan Water Board: Income and Expenditure  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
INCOME					
Municipal contributions—					
Hobart .. .. .	735	787	788	959	1 202
Glenorchy .. .. .	486	521	504	595	717
Clarence .. .. .	524	553	517	592	697
Kingborough .. .. .	90	97	98	114	133
Special consumers .. .. .	315	341	352	351	385
Direct earnings, Southern Regional Scheme	232	255	279	353	324
Other revenue .. .. .	23	45	82	71	92
Total .. .. .	2 406	2 599	2 620	3 035	3 550
EXPENDITURE					
Reimbursement of working expenses—					
Hobart .. .. .	327	340	372	390	414
Glenorchy .. .. .	238	247	267	270	299
Clarence .. .. .	137	144	144	146	145
Kingborough .. .. .	43	45	46	53	67
Bulk supply, operation costs .. .. .	322	340	463	673	639
Administrative expenses .. .. .	54	74	86	83	101
Interest .. .. .	928	1 013	1 161	1 254	1 300
Depreciation .. .. .	250	287	323	346	369
Investigation expenses written-off .. .. .	39	..	..	..	..
Total .. .. .	2 339	2 490	2 862	3 216	3 334

The preceding table excludes capital contributions, these are shown in the next table:

**Metropolitan Water Board: Contributions to Southern Local Government Authorities**  
(£'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>Hobart—</b>					
Construction and improvement ..	161	333	317	244	183
Redemption and conversion ..	116	104	43	26	33
Total .. .. .	276	436	359	270	215
<b>Glenorchy—</b>					
Construction and improvement ..	129	128	250	100	121
Redemption and conversion ..	55	57	153	124	155
Total .. .. .	184	186	403	224	276
<b>Clarence—</b>					
Construction and improvement ..	30	40	261	50	44
Redemption and conversion ..	55	64	45	47	49
Total .. .. .	85	104	306	97	94
<b>Kingborough—</b>					
Construction and improvement ..	19	92	125	81	93
Redemption and conversion ..	12	12	12	13	13
Total .. .. .	31	104	137	94	106
<b>Total—</b>					
Construction and improve- ment .. .. .	339	593	953	475	441
Redemption and conversion	237	237	252	210	250
Grand total .. ..	576	830	1 205	685	691

The Board makes capital contributions to the four local government authorities for: (i) construction and improvement of their water works; and (ii) redemption of their water debt raised prior to creation of the Board. The Board finances these capital contributions by: (i) borrowing from the State Government; (ii) borrowing from the public; and (iii) application of internal funds, e.g. depreciation funds. The cost of servicing loans, raised by the Board to meet local government requirements, is met from revenue contributions by the four local government authorities.

### *Capital Expenditure*

The Board's total allocation of funds for capital purposes in 1973-74 was \$1 100 000 made up of \$500 000 from State Loan Funds and \$600 000 from external borrowings. Of the allocation \$212 000 was for augmentation of the Derwent Water Supply, \$441 000 for municipal reticulation systems, \$180 000 for the construction of the Howrah-Rokeby pipeline and \$120 000 for the Sorell-Clarence extension.

In the 12 years of the Board's operations, the annual loan expenditure has averaged slightly less than \$2m. During this time the Board has completed such major projects as the Derwent Water Supply (\$6.6m); Sorell-Clarence extension (\$1.6m); Kingborough extension (\$0.6m); Risdon Brook Dam (\$2.9m); and made capital advances to the metropolitan municipalities for works under their control (\$8.0m) and loan conversions (\$2.5m).

## Rivers and Water Supply Commission

*Relations with Local Government Authorities*

The Commission examines all proposed municipal water supply and sewerage schemes before construction commences to ensure that the schemes are economically sound. (Schemes proposed by the three cities, Hobart, Launceston and Glenorchy, are exempted from examination by the Commission.) If a scheme is considered to be beyond the financial resources of the local authority, the Commission may recommend to the Minister for Lands and Works that a subsidy be paid. Such assistance is payable where investigations show that the revenue which a council might reasonably be expected to raise from rates and other charges is not sufficient to meet the annual loan charges and expenditure on maintenance, operation and administration. (Since 1 July 1973, the Commission discontinued the tenement and block method for establishing a general minimum municipal rating standard necessary to qualify for a subsidy. Instead, when the revenue standard for each water and sewerage scheme is assessed, account is taken of the relationship between the rateable annual value and the capital value of properties served, and of the financial situation in the region.) This system has led to the adoption for each scheme of an annual revenue requirement which is varied from time to time.

*Regional Schemes*

*North Esk Regional Water Supply:* The scheme, managed by the Commission, serves portions of the municipalities of Evandale, George Town, Lilydale, St Leonards and Westbury. In addition the scheme provides water for industrial purposes to Bell Bay. Total income from the scheme during 1973-74 was \$371 000 which included sale of water to: (i) municipalities, \$213 000; (ii) industrial users, \$117 000; and (iii) wayside consumers, \$7 000. Total expenditure for the year amounted to \$399 000. At 30 June 1974, capital cost of the scheme amounted to \$3.77m. Work commenced in May 1974, on a 29.2 million litres per day water treatment plant and it was hoped that this would be in operation by December 1975.

*West Tamar Water Supply:* This scheme was partially completed by the Beaconsfield Municipality but under the *West Tamar Water Act 1960* was vested in the Rivers and Water Supply Commission. The Act provided that the scheme should be managed and maintained by the Beaconsfield Council as agent for the Commission. The level of charges is determined by the Commission; Beaconsfield Municipality collects revenue on behalf of the Commission and is reimbursed for expenditure incurred. The scheme serves the western shore of the Tamar located in the Beaconsfield Municipality. Total income from the scheme during 1973-74 was \$180 000 while expenses of the scheme were \$302 000. Capital cost of the scheme to 30 June 1974, was \$2.44m.

*Prosser River Scheme*

This scheme was originally designed to supply water to a sodium alginate industry at Louisville, on the east coast near Orford, and to supplement the water supply for the town of Orford in the Spring Bay Municipality. A water storage dam was constructed near Orford for this purpose and later an additional storage dam was built further upstream. Agreements have been made to supply water to the Triabunna woodchip and fish meal plants from the scheme. The Commission had planned to increase the output of the plant by treating water with activated silica in addition to alum, and had also proposed to remodel the pump installation to give greater discharge. However, the alginate industry closed down in December 1973, with the result that consumption has dropped. The Commission has accordingly shelved its plans for augmenting the scheme. Income for the year 1973-74 was \$42 000 while expenses of the scheme amounted to \$40 000. Capital cost of the Prosser River Scheme to 30 June 1974, amounted to \$434 000.

## Chapter 5

### PUBLIC FINANCE

#### AUSTRALIAN AND STATE GOVERNMENT

##### Change in Relationship Since 1901

Prior to the establishment of the Commonwealth in 1901, the individual states exercised complete autonomy with respect to their raising of revenue and the manner in which this was spent. Due to developments since Federation, the states now have only limited ability to raise the money required for revenue and capital purposes. The Australian Government has become almost the exclusive channel for loan funds for state purposes, and supplements state revenue by massive grants from its own funds. The emergence of the Australian Government as the dominating influence in the financial transactions of the state governments can be traced to three events:

- (i) under the Constitution the states surrendered the right to levy customs and excise duties, which passed exclusively to the Australian Government;
- (ii) under the *Financial Agreement Act 1927*, the Australian Government became the borrowing agent for the states; and
- (iii) during World War II, under the uniform tax scheme, the Australian Government became the sole authority levying taxes upon the income of persons and companies, a war-time measure which has continued to this day.

The result of these changed relationships can be summarised as follows:

- (i) the Australian Government, as the channel for loan funds for state purposes, exercises a substantial degree of control over public investment;
  - (ii) to carry out functions for which their revenue is entirely inadequate, the states have become heavily dependent on the Australian Government for general and specific grants.
- The Australian Government is therefore placed in a position to exercise a substantial degree of control over the ordinary public expenditure of the states.

##### Principal Activities of the States

The Federal Constitution lists the matters over which the Australian Parliament has power to legislate. Some of these powers are given exclusively to the Australian Government (e.g. defence, customs and excise) but, in many matters, the Australian and state governments have concurrent powers; federal law prevailing where there is conflict. Matters other than those listed in the Constitution remain the concern of the states. Principal government activity at state level embraces education, health and welfare services, the development of internal resources, land settlement, soil conservation, maintenance of law and order and the provision of public utility services such as roads, electricity, public transport and water supply. Such activities are undertaken either by state departments or by statutory and local government bodies created under state legislation. The most obvious form of revenue for the discharge of these functions is state taxation but the Australian Government exercises a practical monopoly over the more lucrative tax sources (e.g. customs and excise, income tax, sales tax). A responsibility therefore rests on the Australian Government to supplement state revenues.

# Australian Government Payments To or For Tasmania

## Summary of Australian Government Payments

In the following sections, the main forms of Australian Government assistance are described; the following table shows the total annual payments to Tasmania from the Australian Government Consolidated Revenue Fund:

### Australian Government Payments To or For Tasmania (\$'000)

Particulars	1971-72	1972-73	1973-74
<b>GENERAL REVENUE ASSISTANCE</b>			
Financial assistance grants (a) .. ..	71 673	79 498	92 451
Special grants (Section 96) (b) .. ..	7 800	7 600	8 650
Total .. .. .	79 473	87 098	101 101
<b>SPECIFIC PURPOSE PAYMENTS</b>			
Revenue payments—			
Payments under financial agreement—			
Interest on State debt .. ..	534	534	534
Sinking fund on State debt .. ..	1 825	1 934	2 044
Debt charges assistance .. ..	1 590	2 385	3 180
Universities .. ..	2 105	2 530	6 415
Colleges of advanced education .. ..	887	r 1 128	3 959
Schools .. ..	660	914	1 958
Tuberculosis hospitals .. ..	337	289	201
School dental scheme .. ..	..	..	818
Assistance for deserted wives .. ..	201	338	260
Unemployment relief .. ..	1 485	5 970	647
Housing grants .. ..	232	388	388
Agricultural extension services .. ..	349	380	348
Other .. ..	r 306	r 468	1 408
Total revenue payments .. ..	10 511	17 258	22 160
Capital payments— .. ..			
Universities .. ..	665	842	694
Colleges of advanced education .. ..	r 2 035	r 1 425	292
Technical training .. ..	380	380	689
Schools .. ..	1 251	1 708	2 527
School dental scheme .. ..	..	..	549
Housing advances .. ..	..	300	16 000
Australian Government road aid .. ..	10 820	12 150	13 950
Bell Bay Railway .. ..	3 094	1 156	..
King Island harbour works .. ..	..	1 113	..
Hydro-electricity .. ..	2 500	..	..
Softwood forestry .. ..	45	1 101	672
Fruitgrowing industry .. ..	..	100	650
Rural reconstruction .. ..	400	2 200	700
Cressy-Longford irrigation works .. ..	449	101	..
Other .. ..	r 816	r 661	1 268
Total capital payments .. ..	r 22 455	r 23 237	37 990
Total specific purpose payments .. ..	r 32 966	r 40 495	60 150
<b>GENERAL AND SPECIFIC PURPOSE PAYMENTS</b>			
Total payments (c) .. .. .	r 112 439	r 127 593	161 251

(a) Includes special financial assistance grants: 1971-72, \$2 517 000; 1972-73, \$5 094 000; 1973-74, \$1 207 000.

(b) Actual payments *plus* or *minus* adjustment.

(c) This total cannot be identified as *such* in state accounts since part is taken into Consolidated Revenue Fund, part into Loan Fund, and the balance into Trust and Special Funds.



### Financial Assistance Grants

The Federal *States Grants (Income Tax Reimbursement) Act* 1942 provided for grants to the states as compensation for vacating the field of income tax. Various formulae have been employed to calculate each state's grant, the principles of the present system dating from 1959. These involved annually increasing the grant by taking account of three factors: (i) increased state population; (ii) increased average wages; and (iii) a 'betterment' multiplier. This 'betterment' multiplier was a constant 1.2 per cent from 1965-66 to 1970-71; from 1971-72 to 1973-74 it was 1.8 per cent. When determining the 1973-74 financial assistance grant a reduction for the transfer of responsibility for tertiary education was made.

The calculation of the Tasmanian grant for 1973-74 illustrates the application of the formula: (i) formula grant (1972-73) \$79 497 850; (ii) percentage increase in Tasmanian population in year 1973, 0.8952; (iii) percentage increase in wages per person employed (1973-74 over 1972-73) 16.03101; (iv) betterment factor 1.8 per cent.

Calculated grant (1973-74)=

$$\$79\,497\,850 \times 1.008\,952 \times 1.160\,310\,1 \times 1.018 = \$94\,743\,153$$

The Australian Government adjusted the calculated grant by adding a special financial assistance grant of \$1 207 408 and subtracting \$3 500 000 for the transfer of tertiary education, giving a total of \$92 450 561.

The following shows the amounts received as financial assistants grants from 1956-57:

Financial Assistance Grants (a): Receipts by Tasmania  
(\$)

Year	Amount	Year	Amount	Year	Amount
1956-57 ..	12 048 712	1962-63 .. ..	26 616 104	1968-69 (b) ..	42 208 983
1957-58 ..	13 435 384	1963-64 .. ..	27 626 296	1969-70 (b) ..	48 514 433
1958-59 ..	14 539 428	1964-65 .. ..	29 297 286	1970-71 (b) ..	67 087 841
1959-60 ..	21 826 000	1965-66 .. ..	32 130 632	1971-72 (b) ..	71 673 202
1960-61 ..	23 960 360	1966-67 (b) ..	34 772 852	1972-73 (b) ..	79 497 850
1961-62 ..	25 671 238	1967-68 .. ..	37 968 098	1973-74 (b) ..	92 450 561

(a) Referred to as tax reimbursement grants from 1942-43 to 1958-59. (Formula grants plus supplementary grants.)

(b) Calculated formula grant and other adjustments (e.g. special supplements).

### Tertiary Education

At the June 1973 Premiers' Conference the Australian Government's offer to accept the full financial responsibility for tertiary education from 1 January 1974 was accepted by the states. Furthermore, it was agreed that the revenue expenditure which the states would save should be deducted from the financial assistance grants. (Estimated capital expenditure of which the states are relieved is to be deducted from state loan programmes.) The agreed reductions to the financial assistance grants for Tasmania were: 1973-74, \$3.5m; 1974-75, \$7.2m. (The 1973-74 amount represents only a half-year's reduction.) It is intended that the 1974-75 amount will be subtracted from the base amount used to calculate the 1975-76 formula grant.

*Special Grants (Section 96 of the Constitution)*

Section 96 of the Constitution reads: 'During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any state on such terms and conditions as the Parliament thinks fit'.

The Commonwealth Grants Commission was established in 1933 and consists of three members on a part-time basis assisted by a full-time staff. In its third report (1936) it fixed upon the principle of financial need, which was expressed in the following terms: 'Special grants are justified when a state through financial stress from any cause is unable efficiently to discharge its functions as a member of the federation and should be determined by the amount of help found necessary to make it possible for that state by reasonable effort to function at a standard not appreciably below that of other states'. In arriving at its recommendations, the Commission each year makes a detailed comparison of the budget results of the claimant states with those of the non-claimant states.

Prior to the passage of the federal *States Grants Act* 1959, the claimant states had been Tasmania, W.A. and S.A. The new formula evolved under the *States Grants Act* 1959 had been devised partly in reaction to a claim by Victoria and Queensland to be also considered as claimant states; in effect, the new scale of increased grants under this legislation resulted in the number of claimant states falling to two, W.A. and Tasmania. The Grants Commission could then have used the accounts of the four non-claimant states to reach a basis for comparison: it finally decided to adopt a two-state standard, based on the budgets of N.S.W. and Victoria. Recent developments have included: (i) the withdrawal of W.A. as a claimant state from 1968-69; (ii) the acceptance of S.A. as a claimant state from 1970-71; (iii) the acceptance of Queensland as a claimant state from 1971-72; and (iv) the withdrawal of Tasmania as a claimant state from 1974-75.

On 11 June 1974 the Premier announced Tasmania's withdrawal as a claimant state for a Special Grant under Section 96 of the Commonwealth Constitution. The announcement was of historic significance for the State for two reasons:

- (i) In 1912-13 Tasmania first obtained a Special Grant under Section 96 of the Commonwealth Constitution and from that time until 1973-74 had received a special grant each year.
- (ii) In 1933 the Grants Commission was established to examine the claims of states requesting special grants to assist their revenues. From 1933 until 1973-74 Tasmania had had a continuous association with the Grants Commission and its determinations had considerably influenced the State Government's financial policies.

Tasmania's withdrawal from the Grants Commission's Special Grants procedures became operative for the 1974-75 financial year. The withdrawal gives the State Treasurer greater freedom in planning the State's finances, however, some of the protection afforded by the special grant against any sudden unexpected deterioration of the State's financial position is lost.

The financial arrangement for the withdrawal was that \$15m would be added to the State's Financial Assistance Grant for 1974-75 and that the total receipt, including the \$15m, would become the base for calculating the 1975-76 Financial Assistance Grant. Also, as part of the withdrawal arrangement, Tasmania's 1972-73 and 1973-74 advance special grants are not subject to final adjustment.

For details of the method by which Special Financial Assistance Grants were paid to Tasmania, reference should be made to Year Books prior to the 1976 edition.

*Payments Under the Financial Agreement (1927)*

Under the Financial Agreement, which was entered into by the Australian Government and the states in 1927, the Australian Government contributes towards interest and sinking fund payments in respect of state debts existing at 30 June 1927, and towards sinking fund payments in respect of state debts incurred after that date for purposes other than the funding of revenue deficits.

The Australian Government contribution towards payment of interest on the Tasmanian State debt is a constant annual sum of \$533 718 and will be continued until 1985.

The sinking fund contributions made by the Australian Government under the Agreement in respect of state debts vary according to the date and nature of the borrowings. On state debts existing at 30 June 1927 the Australian Government is making sinking fund contributions at the rate of 0.125 per cent a year until 1985 and in respect of cash loans raised for the states since that date, the Australian Government makes sinking fund payments for 53 years at the annual rate of 0.25 per cent. Each state is obliged to make sinking fund payments for corresponding periods at the rate of 0.25 per cent per annum regardless of the date on which the debt was incurred. The only exception is in relation to debt incurred for the purpose of funding revenue deficits. In these instances, the Australian Government makes no sinking fund contributions and the states are obliged to make annual contributions to the sinking fund of not less than four per cent. However, in respect of Treasury Bills issued to cover states' revenue deficits accruing between July 1927 and June 1935, special arrangements were made under which the Australian Government contributes 0.25 per cent per annum on the amount outstanding until June 1983.

Recent Australian Government sinking fund contributions in respect of the Tasmanian public debt are shown in the following table:

**Australian Government Contributions to National Debt Sinking Fund: Tasmanian Debt (\$'000)**

Year	Amount	Year	Amount
1964-65 .. .. .	1 129	1969-70 .. .. .	1 598
1965-66 .. .. .	1 212	1970-71 .. .. .	1 694
1966-67 .. .. .	1 293	1971-72 .. .. .	1 825
1967-68 .. .. .	1 398	1972-73 .. .. .	1 934
1968-69 .. .. .	1 485	1973-74 .. .. .	2 044

The acceptance of some Australian Government liability for interest and sinking fund payments on state debts was only one part of a more extensive agreement setting up an Australian Loan Council and a National Debt Sinking Fund. The raising of loan money for the states under the Agreement is described later in this chapter.

*New Assistance for Debt Charges*

At the 1970 February Premiers' Conference, the Australian Government announced it was prepared to take over state debt totalling \$1 000m during the five-year period 1970-71 to 1974-75. However, this would have necessitated amendments to the *Financial Agreement Act 1927* and caused considerable delay. The Australian Government then proposed an alternative which involved grants to the states equal to interest on specific parcels of state debt. The distribution between the states was in proportion to Australian Government Securities on issue on behalf of each state at 30 June 1970. Tasmania's estimated receipts under this

scheme were in (\$m): 1970-71, 0.8; 1971-72, 1.6; 1972-73, 2.4; 1973-74, 3.2; and 1974-75, 3.9. It was intended to amend the *Financial Agreement Act* 1927 during 1975-76 and to formally transfer the \$1 000m of state debt to the Australian Government.

### *Grants for Capital Purposes*

To assist the states in meeting their capital works programmes during the period 1970-71 to 1974-75 the Australian Government has provided annual grants for financing non-reproductive capital works. Total approved borrowing programmes from 1970-71 to 1974-75 have been (in \$m): 1970-71, 823; 1971-72, 892; 1972-73, 982; 1973-74, 867; and 1974-75, 1 027. The proportion of the total states' capital works programme provided by Australian Government grants in this period has been: 1970-71, 24.3 per cent; 1971-72, 24.6; 1972-73, 25.3; 1973-74, 32.1; and 1974-75, 31.8. However, changes in the composition of total state capital works programmes have occurred during this period: (i) the 1970-71 figure excludes borrowings for state housing; (ii) 1971-72 and 1972-73 figures include borrowings for state housing; (iii) from 1973-74, figures exclude borrowings for welfare housing and from 1 January 1974 tertiary education—the latter has become an Australian Government function following an agreement at the June 1973 Premiers' Conference.

Distribution of the grants was by agreement between the states or by the Australian Government if the states fail to reach agreement. Tasmania's share of the 1973-74 grant was \$20.55m which was credited to the State's Loan Fund. Expected capital grant receipts for 1974-75 for Tasmania are \$22.3m and expected borrowings for new capital purposes (excluding funds for tertiary education from January 1974 and welfare housing) are \$47.2m.

The provision of these grants reduced the amount which the State needed to borrow in order to carry out its capital works programme. The result of this decrease in the amount borrowed meant that the burden of debt charges (interest payments and sinking fund contributions) on the Consolidated Revenue Fund was eased.

### *Australian Government Aid for Roads*

The *Federal Main Roads Development Act* 1923 provided for annual Australian Government contributions to the states, the basis of distribution being a formula weighted 40 per cent according to state area and 60 per cent according to state population. This basis was explicitly expressed in the *Federal Aid Roads Act* 1926 and continued to operate until 1959-60.

A new formula for distribution was embodied in the *Commonwealth Aid Roads Act* 1959 when the Australian Government undertook to provide a total sum of \$500m over a five-year period. Of this amount, \$440m represented basic grants, and the remaining sum of up to \$60m was, subject to certain annual limits, payable to the states on the basis of \$1 for each \$1 allocated by the state governments from their own resources for expenditure on roads over and above the amounts allocated by them for roads expenditure in 1958-59.

The amounts made available by the Australian Government were distributed between the states in each year in the proportion of five per cent of the total for Tasmania, and the balance shared between the other five states on the basis of one-third according to census population, one-third according to area and one-third according to vehicles registered at 31 December preceding the year concerned. It will be observed that Tasmania, with less than one per cent of the area of Australia, was specifically exempted from the operation of the formula applied to the other states.

The *Commonwealth Aid Roads Act* 1964 contained provision for a second five-year plan but the total distribution over this period was raised to an amount of \$750m. A third five-year plan, based upon a distribution of \$1 252m was embodied in the *Commonwealth Aid Roads Act* 1969. Of this amount \$1 200m was divided between the states according to a new formula which included characteristics of the old formula and a scheduling formula suggested in a Bureau of Roads report. The remaining \$52m was distributed thus: W.A., \$40.8m; S.A., \$9m; and Tasmania \$2.25m. Tasmania's total receipts under the new five-year plan were \$56.25m. The 1969 Act specified that 50.06 per cent of the Australian Government grant to a state was to be spent on urban roads; 15.56 per cent on main trunk roads; 32.88 per cent on other rural roads and 1.5 per cent on planning and research. To qualify for a specified part of the total grant, each state, during the five-year period, was required to increase its expenditure on roads from its own resources above a base-year level at the same rate as the number of motor vehicles on register in the state increased.

From 1974-75 new arrangements have been made for financing road expenditure and these are embodied in three separate Federal Acts—the *National Roads Act* 1974, the *Roads Grants Act* 1974 and the *Transport (Planning and Research) Act* 1974. These Acts cover the period 1974-75 to 1976-77 and it is intended that future legislation will extend the period for a further three years.

Under the *National Roads Act* 1974, grants are allocated to the states to meet the total cost of approved construction and maintenance of declared national highways. Grants are also provided, on the same basis, for roads which have been classified as important for facilitating trade and commerce between states, and with other countries. At this stage, declared roads are those classified as such by the Commonwealth Bureau of Roads in its 'Report on Roads in Australia 1973'. The *Roads Grants Act* 1974 provides grants for roads not covered by the *National Roads Act* 1974. Various classifications are used and amounts granted separately toward rural arterial and developmental roads, beef roads, urban local roads, rural local roads and minor traffic engineering and road safety improvements. The *Transport (Planning and Research) Act* 1974 provides for grants to meet two-thirds of the cost of approved planning and research projects in relation to roads and road transport. Of the total available under this Act over the three-year period (\$26m), only \$15m was specifically allocated to the states. The balance is to be allocated to projects irrespective of which state is involved, where each proposed project will compete for available funds. Provision has been made for the transfer of amounts between the various categories and the various Acts, provided that over the three-year period, expenditure of grants on each classification does not exceed the total provided under the appropriate Act.

Where, to qualify for a grant under the *Commonwealth Aid Roads Act* 1969, each state was required to increase expenditure on roads from its own resources in accordance with the formula described above, the new Acts have set annual minimum quotas of expenditure from state resources for each state. Provision has been made for the carry forward of excesses or deficiencies in expenditure from state resources when determining if a quota has been met.

Following the February 1975 Premiers' Conference, additional road grants were made available for 1974-75 as a short-term measure to assist employment in the road building and maintenance sector. These grants, totalling \$30m for the whole of Australia, were provided under the *National Roads Act* 1974 and the *Roads Grants Act* 1974.

Details of Tasmanian receipts of Australian Government contributions in respect of road expenditure are shown in the following table:

Australian Government Aid for Roads: Receipts by Tasmania  
(\$'000)

Year	Amount	Year	Amount	Year	Amount
1957-58 ..	3 466	1963-64 .. ..	5 800	1969-70 .. ..	9 100
1958-59 ..	3 624	1964-65 .. ..	6 500	1970-71 .. ..	10 230
1959-60 ..	(a) 4 366	1965-66 .. ..	7 000	1971-72 .. ..	10 820
1960-61 ..	4 600	1966-67 .. ..	7 500	1972-73 .. ..	12 150
1961-62 ..	5 000	1967-68 .. ..	8 000	1973-74 .. ..	13 950
1962-63 ..	5 400	1968-69 .. ..	8 500	1974-75 .. ..	18 585

(a) Payment under the *Commonwealth Aid Roads Act* 1959 was \$4.2m; the balance represents a final adjustment of Australian Government commitments under previous legislation.

### State Revenue Raising Difficulties

#### Introduction

The financial relationships described in the opening section of this chapter have at times caused difficulties for individual states, especially when there has been an urgent need to increase revenue. In these circumstances, the complaint has been that the Australian Government exercises a practical monopoly over the best 'growth' taxes and that, because of this, the states lack budget flexibility.

The following text describes: (i) the transfer of pay-roll tax from the Australian Government to the states; (ii) the imposition by the Tasmanian Government of a tobacco tax.

#### Growth Tax for the States

Increasing budgetary difficulties in recent years led to pressure from the state premiers for access to a growth tax, preferably re-entry into the field of income taxation. The initial attempts involved the levy of a receipts duty tax. At the 1971 June Premiers' Conference the Prime Minister refused to give the states access to the field of income taxation; however, he did offer to hand over pay-roll tax to the states. The proposal put forward was that the states would receive receipts from pay-roll tax but the amounts received would be deducted from the states' financial assistance grants. The premiers unanimously rejected this proposal. After discussion the state premiers agreed to take over pay-roll tax and have a matching reduction in the formula base for their financial assistance grants, subject to the following conditions:

- (i) The Australian Government would give the states a non-recurring special financial assistance grant totalling \$40m during 1971-72; Tasmania's share was \$1.9m.
- (ii) The states, by a variation of the formula grants in the period 1971-72 to 1974-75, were to receive approximately an extra \$100m.
- (iii) The Australian Government agreed to bear the full cost resulting from the exemption from pay-roll tax of certain areas of local government.

The state premiers immediately raised the pay-roll tax rate from 2½ per cent to 3½ per cent. Further increases raised the rate to 4½ per cent from 1 September 1973 and to 5 per cent from 1 September 1974. Receipts from pay-roll tax in Tasmania in 1973-74 were \$17.68m.

### *Tobacco Tax*

In the September 1972 Budget the State Government announced its intention to: (i) impose a tax on the consumption of tobacco; and (ii) licence tobacco retailers and vending machines. Despite an adverse reaction from the Federal Treasurer the Tasmanian Government decided to proceed with the tobacco tax proposal and legislation was introduced into the House of Assembly. In November 1972 the *Tobacco Act* received the Governor's assent.

*Tobacco Act 1972:* The Act, which became effective on 1 January 1973, imposed a tax on the consumption (by smoking or chewing) of tobacco and required the licensing of tobacco retailers and vending machines. The consumption tax was set at 7½ per cent of the value of the tobacco consumed. (The value on which the tax was based was the price at which the tobacco, together with its container, was ordinarily sold.) Licence fees for retailers were based on the value of tobacco stocks while vending machine fees were set according to the capacity of the machine. The consumption tax, licences and fees collected under the Act were to be paid into the Consolidated Revenue Fund.

*Challenge to the Act:* The Retail Tobacco Sellers' Association decided to challenge the consumption tax on the grounds that it was in fact a sales tax and therefore constitutionally invalid. The challenge was heard by the High Court. In March the Australian Government announced that it would seek leave to intervene in the case and that it would oppose the tax.

*Court's Decision:* In May 1973 the High Court reserved its decision on the question of validity of the tax and licences. Almost one year later on 1 April 1974 the Court ruled that the tobacco tax did not constitute an excise duty and that both the licence fee and tax were valid. However, the Court decided that the method of collecting the 7½ per cent tax was illegal. The decision validating the Tasmanian tobacco consumption tax was generally regarded as giving the states access to an important new field of taxation. The basic difficulty confronting the states was one of devising a method of collection that is legal and administratively feasible.

*Reaction:* Both the State Government and the Tasmanian Retail Tobacco Traders' Association claimed the decision as a victory—the association advised members to cease collection of the tax, however, the Premier, Mr Reece, stated that the problem was purely administrative and that the tax would be operative as soon as a new method of collection was devised. Later in April an alternative collection method was announced; principal features were: (i) purchasers may pay the tax prior to leaving the vendor's establishment and at the end of the month tobacco and cigarette retailers forward all taxes collected to the Commissioner of Taxes; (ii) if a buyer elects not to pay the tax at time of purchasing then a form procedure is invoked and the seller is required to ensure accuracy of information and forward completed forms to the Commissioner. Tobacco retailers were vocal in their opposition to the new method; however, Parliament allowed the regulations covering the method of collection to stand and the tax again became operative.

*Suspension:* Discussions during May 1974 between the Australian and Tasmanian Governments resulted in major changes to State financing. These involved: (i) Tasmania's withdrawal from the Grants Commission Special Grants procedures from 1 July 1974; (ii) the Financial Assistance Grant being increased for 1974-75 by \$15m, this being added to the base for 1975-76 grant calculations; and (iii) the tobacco tax legislation being suspended from 1 May 1974 and tobacco retailers not being required to be licensed after 30 June 1974. The tobacco tax legislation was not repealed, however, leaving the State Government free to re-impose the tax and licences at any time.



### Loan Council (Financial Agreement)

The original Financial Agreement was made on 12 December 1927, but Tasmania did not become a party to it until 1 July 1928. The basic intention of the agreement was a co-ordinated approach to the loan market, the establishment of sound sinking fund arrangements and the sharing of state debt charges by the Australian Government. The main provisions are summarised as follows:

- (i) The Australian Government assumed certain liabilities in respect of state debts (see previous section on interest and sinking fund payments made by the Australian Government in respect of Tasmanian State debt—'*Payments under the Financial Agreement 1927*').
- (ii) The Australian Loan Council was set up to co-ordinate the public borrowings of the Australian Government and the states. It consists of the Prime Minister (or his nominee) as chairman, and the state premiers (or their nominees). Each financial year the Australian Government and the states submit programmes to the Loan Council setting out the amounts they desire to raise by loan during the next year. Revenue deficits to be funded are included in the borrowing programmes but borrowing by the Australian Government for defence purposes is excluded from the terms of the agreement.

If the Loan Council decides that the total amount of the loan programmes for the year cannot be borrowed at reasonable rates and conditions, it then decides the amount which shall be borrowed and may, by unanimous decision, allocate that amount between the Australian Government and the states. In default of a unanimous decision, the Australian Government is entitled to one-fifth of the total amount to be borrowed and each state to a proportion of the remainder equal to the ratio of its net loan expenditure in the preceding five years to the net loan expenditure of all states during the same period.

Subject to the decisions of the Loan Council the Australian Government arranges all borrowings, including those for conversions, renewals and redemptions. However, the Australian Government or a state may borrow for 'temporary purposes' by way of overdraft or fixed deposit, subject to limits fixed by the Loan Council. In addition, the Australian Government may borrow within Australia, or a state within its own territory, from authorities, bodies, institutions, or from the public by counter sales of securities, subject to Loan Council approval. Australian Government securities are issued for money borrowed in this way and amounts so borrowed are treated as part of the borrowing programme for the year.

- (iii) The Agreement involved setting up a National Debt Commission to administer one consolidated sinking fund in respect of the debt of the Australian Government and the states. Sinking fund moneys are used to redeem unconverted securities at maturity and to re-purchase securities on the stock market.
- (iv) It was realised at the inception of the Loan Council that, in the interests of co-ordinated borrowing, the Council should be advised of borrowings of large amounts by semi-government authorities (such loan raisings do not form part of state or Australian

Government debt and therefore are not within the scope of the original agreement). A set of rules evolved in 1936 is regarded as the 'Gentlemen's Agreement' and makes provision for the submission to the Council of annual loan programmes in respect of larger semi-government and local government authorities (in conjunction with the loan programmes of the governments concerned) and for the fixing of the terms of individual loans coming within the scope of the annual programme. For 1974-75 larger authorities are those semi-government and local government authorities borrowing more than \$500 000 in a year. (For 1973-74 borrowings approved by the Loan Council for larger Tasmanian semi-government and local government authorities amounted to \$15 679 000.)

It should be emphasised that the Australian Loan Council does not itself raise money for Tasmanian semi-government and local government authorities; its concern is to assess the total impact of government borrowing for the year and then to fix ceilings for semi-government and local government authorities in the interests of a co-ordinated programme.

For 1971-72 and 1972-73 money made available from the Australian Loan Fund to the State of Tasmania was recorded in the State Loan Fund only. Prior to 1971-72 borrowings for housing had been credited to Trust and Special Funds. From 1973-74, loan funds for welfare housing were once again credited to Trust and Special Funds. Borrowing for tertiary education capital works became an Australian Government responsibility from 1 January 1974 and reduced Tasmania's borrowing programme for 1973-74 by \$1.1m.

The following table shows Loan Council borrowings undertaken on behalf of the State of Tasmania to finance new capital works and, for 1971-72 and 1972-73, housing:

**Tasmania: New Cash Borrowings Authorised by Australian Loan Council (a)**  
(*\$'000*)

Year	Amount	Year	Amount	Year	Amount
1957-58.. ..	24 200	1963-64 .. ..	32 020	1969-70 .. ..	45 370
1958-59.. ..	25 180	1964-65 .. ..	34 136	1970-71 (b) ..	34 570
1959-60.. ..	27 080	1965-66 .. ..	34 834	1971-72 .. ..	(c) 47 020
1960-61.. ..	28 388	1966-67 .. ..	37 580	1972-73 .. ..	(c) 51 252
1961-62.. ..	28 996	1967-68 .. ..	40 610	1973-74 .. ..	(d) 43 467
1962-63.. ..	30 708	1968-69 .. ..	42 120	1974-75 .. ..	51 891

(a) For State works programmes; amounts credited to State Loan Fund.

(b) Commencing in 1970-71 the Australian Government has provided a capital grant to replace some amounts which would otherwise have been obtained as loan borrowings; hence the reduced amount in 1970-71.

(c) New cash borrowings for 1971-72 and 1972-73 include allocations for State housing.

(d) Excludes borrowings for State welfare housing and from 1 January 1974 for tertiary education.

For years prior to 1971-72 and from 1973-74, the previous table excludes allocations under the Australian Government and State Housing Agreements, which were also part of the Loan Council's programme. The following table shows allocations to Tasmania for housing purposes:

**Tasmania: Allocations For Housing**  
(\\$'000)

Year	Amount	Year	Amount	Year	Amount
1957-58.. ..	4 000	1963-64 .. ..	6 000	1969-70 .. ..	7 600
1958-59.. ..	4 400	1964-65 .. ..	6 400	1970-71 .. ..	8 700
1959-60.. ..	3 900	1965-66 .. ..	7 448	1971-72 .. ..	(a)
1960-61.. ..	4 000	1966-67 .. ..	7 500	1972-73 .. ..	(a)
1961-62.. ..	5 856	1967-68 .. ..	6 700	1973-74 .. ..	16 445
1962-63.. ..	5 200	1968-69 .. ..	7 500		

(a) Allocations included with other borrowings in the previous table (1971-72, \$8.3m and 1972-73' \$9.1m).

## STATE FINANCIAL TRANSACTIONS

### Tasmanian Public Account

The State Public Account includes the Consolidated Revenue Fund, the Trust and Special Funds, and the Loan Fund. Ordinary revenues from taxation and other sources are paid into the Consolidated Revenue Fund from which the main expenditures are for public debt charges, education, development of State resources, health and hospitals, general administration, subsidies to State business undertakings, law and order, and certain welfare activities. The Trust and Special Funds cover special transactions outside the ordinary operations of departmental expenditure, such as funds from the Australian Government for specific purposes and moneys held for expenditure by the State at some future time. The Loan Fund receives its funds from public borrowings and grants, and the main expenditure is on State public works and on advances to State business undertakings.

A summary of transactions on the Tasmanian Public Account for the three-year period is given in the following table:

**Public Account: Summary of Transactions**  
(\\$'000)

Particulars	1971-72	1972-73	1973-74
Cash and investments at beginning of year ..	11 934	7 585	7 448
Receipts—			
Consolidated Revenue Fund .. ..	157 782	181 866	206 947
Special grant adjustment .. ..	-3 200	-2 400	-1 350
Borrowings for new capital purposes ..	47 028	51 254	43 490
Other Loan Fund receipts .. ..	22 079	26 937	29 893
Net increase, Trust and Special Funds ..	744	2 517	2 419
Total .. .. .	224 434	260 174	281 399
Expenditure—			
Consolidated Revenue Fund .. ..	160 237	185 998	210 097
Loan Fund, public works and purposes ..	68 538	74 312	69 875
Discount .. .. .	8	1	23
Total .. .. .	228 783	260 311	279 995
Cash and investments at end of year ..	7 585	7 448	8 852

The State Public Account is a complete record of the Government's operation of three specific funds, i.e. Consolidated Revenue, the Trust and Special Funds, and the Loan Fund. It is by no means a complete record of government activity, since statutory authorities and semi-government authorities such as the Hydro-Electric Commission, Transport Commission and Agricultural Bank carry on financial operations which are not recorded in the State Public Account. In a later section of this chapter, there appears the heading '*Exclusions from Consolidated Revenue*' and this lists the relationship between the finances of the principal authorities and the Consolidated Revenue Fund; the general principle is that gross receipts and expenditure of the authorities are excluded from the Consolidated Revenue Fund.

In the following table are shown the balances credited to each fund constituting the Public Account and the form in which the balances are held:

**Public Account: Summary of Balances at 30 June**  
(\$'000)

Year	Balance				Location			
	Accumulated Revenue Account	Loan Fund	Trust and Special Funds	Total	Cash in Treasury or bank	Advanced to departments	Govt and other securities (a)	Total
1970 .. ..	- 2 830	3 754	9 048	9 972	3 257	773	5 942	9 972
1971 .. ..	- 1 128	5 099	7 963	11 934	3 541	993	7 400	11 934
1972 .. ..	- 2 433	1 310	8 707	7 585	5 427	890	1 268	7 585
1973 .. ..	- 6 586	2 810	11 224	7 448	3 467	905	3 075	7 448
1974 .. ..	- 7 282	2 490	13 643	8 852	2 359	931	5 562	8 852

(a) Includes fixed deposits.

In the previous table, 'Accumulated Revenue Account' is a suspense account recording accumulated surpluses and deficits in the Consolidated Revenue Fund, and also the funding of deficits. Details of the account are as follows:

**Accumulated Revenue Account: Summary of Transactions**  
(\$'000)

Year	Opening balance	Transactions			Closing balance
		Budget result, Consolidated Revenue	Special grant adjustment (a)	Deficits charged to Loan Fund	
1969-70 .. ..	- 5,545	+ 2 815	- 100	..	- 2 830
1970-71 .. ..	- 2 830	+ 22	+ 1 680	..	- 1 128
1971-72 .. ..	- 1 128	- 2 455	- 3 200	+ 4 350	- 2 433
1972-73 .. ..	- 2 433	- 4 132	- 2 400	+ 2 378	- 6 586
1973-74 .. ..	- 6 586	- 3 150	- 1 350	+ 3 805	- 7 282

(a) It is Tasmanian Treasury practice to record special grant adjustments in the Accumulated Revenue Account and to include, in published Consolidated Revenue receipts, only the advance grant as determined by the Commonwealth Grants Commission.

In the following section dealing with Consolidated Revenue, Treasury practice of eliminating special grant adjustments from Consolidated Revenue total receipts has been followed.

## Consolidated Revenue Fund

*General*

The financial transactions of the State of Tasmania are recorded under: (i) Consolidated Revenue; (ii) Trust Funds; and (iii) Loan Fund.

Payments from Consolidated Revenue are made only on the basis of authority found in: (i) the annual Appropriation Act of the Parliament; (ii) Acts of the Parliament made in previous years and under which certain annual payments are classified as 'reserved by law'; and (iii) the *Public Account Act* 1957 (as amended in 1962) and the *Audit Act* 1918.

The third category of authority listed above is designed to give the Treasurer and the Government some flexibility in public expenditure since the Appropriation Act cannot be expected to anticipate, to the nearest dollar, the expenses that are likely to be incurred for each and every item. The relevant sections of the amended *Public Account Act* are 5A and 5B which provide that, in relation to Consolidated Revenue, the Treasurer may authorise transfers between votes within certain subdivisions of the appropriation and, on the authority of the Governor, supplement certain appropriations and provide funds to meet expenditure for which no other provision exists. Transfers, as described under 5A, are a matter for the Treasurer but additional expenditure, as described under 5B, needs ratification by Parliament before the close of the following financial year. Regulations 20 and 21 of the second schedule of the *Audit Act* provide for expenditure by the Treasurer to meet emergencies for which no vote exists; the Governor must first authorise such expenditure and the Auditor-General investigate the circumstances before payment can be made.

*Exclusions from Consolidated Revenue*

It should be observed that the Consolidated Revenue Fund does not include all revenue and expenditure in respect of activities undertaken or authorised by the State Government. Some moneys are paid directly into State Trust Funds; e.g. Australian Government assistance for roads is paid into the State Highways Trust Fund and the various expenditures on roads are made directly from that Fund. The gross receipts and payments of a number of State business undertakings and State authorities are excluded from the Consolidated Revenue Fund, their relation to the Fund being as follows:

- (a) In Tasmania, the railways (in common with government shipping services) are administered by the Transport Commission and, since 1939-40, only the *net* losses of this authority have been met from the Consolidated Revenue Fund. Annual payment of debt charges (interest and sinking fund contributions) on advances made by the Government is credited to the Consolidated Revenue Fund.
- (b) Omnibus services in Hobart, Launceston and Burnie are operated by the Metropolitan Transport Trust. The *net* annual loss of the authority is a charge against Consolidated Revenue. Annual payment of debt charges on government advances is credited to the Fund.
- (c) The gross receipts and expenditure of the Hydro-Electric Commission are excluded from the Consolidated Revenue Fund to which is credited annual payment of debt charges by the Commission. Net profit or loss on the Commission's activities is carried forward in the authority's own suspense account; however, from 1971-72 the

Commission has been required to pay an annual contribution to Consolidated Revenue. The amount is five per cent of the total revenue derived from retail sales of electricity in the preceding year.

- (d) Also excluded from the Consolidated Revenue Fund are the gross receipts and payments of: regional water schemes, Government Printing Office, Government Insurance Office, Public Trustee, State housing authorities, closer settlement, rural credits and other activities of the Agricultural Bank, etc. In accordance with various Acts, it is usual for the net profits or losses of the previous year to be paid to or from the Consolidated Revenue Fund for the current year. Debt charges on government money loaned to the authorities are paid to Consolidated Revenue.

### Consolidated Revenue Fund—Summary

The following table shows the consolidated revenue and expenditure of Tasmania, the surplus or deficit, and the aggregate deficit at the end of each year. It also calls attention to the special grant adjustments which were made for 1971-72 and shows how these Australian Government payments modified the original budget result. Special Grant adjustments ceased from 1972-73 as a consequence of Tasmania's withdrawal from the Grants Commission Special Grants procedures. (Details are given earlier in this chapter.)

Consolidated Revenue Fund: Surpluses and Deficits  
(\$'000)

Year	Revenue			Expenditure	Budget result		Aggregate net deficit at end of year
	Before adjustment	Special grant adjustment	After adjustment		Before adjustment	After adjustment	
1962-63 .. ..	63 036	+ 982	64 018	64 020	- 983	- 1	11 493
1963-64 .. ..	67 836	+1 332	69 167	69 020	-1 185	+ 147	11 346
1964-65 .. ..	74 846	+1 166	76 012	76 465	-1 618	- 452	11 799
1965-66 .. ..	83 564	+ 889	84 453	85 585	-2 021	-1 132	12 931
1966-67 .. ..	92 676	-1 190	91 486	93 248	- 572	-1 762	14 693
1967-68 .. ..	100 563	- 100	100 463	102 413	-1 851	-1 951	16 644
1968-69 .. ..	107 846	+1 680	109 526	111 540	-3 695	-2 015	18 659
1969-70 .. ..	123 819	-3 200	120 619	121 004	+2 815	- 385	19 044
1970-71 .. ..	138 229	-2 400	135 829	138 207	+ 22	-2 377	21 421
1971-72 .. ..	157 782	-1 350	156 432	160 237	-2 455	-3 805	r 25 226
1972-73 .. ..	181 866	..	181 866	185 998	-4 132		r 29 358
1973-74 .. ..	206 947	..	206 947	210 097	-3 150		32 508

### Deficit Funding

While the aggregate of all deficits at 30 June 1974 was \$32 508 000, the sum of \$25 226 000 has been charged against the Loan Fund as 'revenue deficits funded': thus the unfunded aggregate deficit is only \$7 282 000 carried as a negative balance in the Accumulated Revenue Account. Prior to 1972-73 the original budget result was treated as provisional because the Grants Commission's adjustment was used to amend the original surplus or deficit and also the aggregate deficit.

The next table shows the adjusted budget result for recent years and how the result was treated.

**Consolidated Revenue Fund: Adjusted Budget Result and Treatment**  
(\\$'000)

Budget result			Budget result		
Year	Amount	Treatment	Year	Amount	Treatment
1962-63 ..	- 1	Funded	1968-69 ..	- 2 015	Funded
1963-64 ..	+ 147	Offset	1969-70 ..	- 385	Funded
1964-65 ..	- 452	Funded	1970-71 ..	- 2 377	Funded
1965-66 ..	- 1 132	Funded	1971-72 ..	- 3 805	Funded
1966-67 ..	- 1 762	Funded	1972-73 ..	- 4 132	To be funded
1967-68 ..	- 1 951	Funded	1973-74 ..	- 3 150	To be funded

**Consolidated Revenue Fund—Receipts**

The following table shows Tasmanian Consolidated Revenue receipts for a three-year period:

**Consolidated Revenue Fund: Receipts**  
(\\$'000)

Item	1971-72	1972-73	1973-74
Australian Government grants—			
Financial agreement .. .. .	534	534	534
Financial assistance .. .. .	71 673	79 498	92 451
Special .. .. .	7 800	r 7 600	8 650
Debt charges assistance .. .. .	1 590	2 385	3 180
Unemployment relief grant .. .. .	1 485	4 670	647
Unemployment relief capital grant .. .. .	..	1 300	..
Total .. .. .	83 082	r 95 986	105 461
Debt charge recoveries (a)—			
Interest .. .. .	24 536	26 725	29 453
Sinking fund .. .. .	2 895	3 157	3 471
Total .. .. .	27 431	29 882	32 924
State taxation (b) .. .. .	30 437	37 570	48 134
Lands and forests—			
Forestry .. .. .	2 127	2 517	3 259
Other rents, sales, etc. .. .. .	411	598	565
Total .. .. .	2 538	3 115	3 824
Semi-government authorities .. .. .	216	157	151
Departmental revenue, fees, rents, etc. .. .. .	9 015	10 551	12 173
Victorian lotteries agreement .. .. .	179	200	228
Australian Government national welfare fund .. .. .	1 683	2 006	2 702
Total actual receipts .. .. .	154 582	r 179 466	205 597
Transfer, Accumulated Revenue Account (c) .. .. .	+ 3 200	r + 2 400	+ 1 350
Grand total .. .. .	157 782	181 866	206 947

(a) Mainly on advances made to semi-government authorities.

(b) See later section, 'State Taxation'.

(c) Special grant adjustments; if sign positive, transfer is from suspense; if negative, transfer is to suspense.



The relative importance of the various components of the Consolidated Revenue Fund can be assessed by expressing them on a per capita basis using the State mean population for the relevant financial year.

Consolidated Revenue Fund: Receipts Per Head of Population  
(\$)

Item	1971-72	1972-73	1973-74
Australian Government grants .. ..	211.7	r 243.0	264.3
Debt charge recoveries .. ..	69.9	75.7	82.5
State taxation .. ..	77.6	95.1	120.6
Lands and forests .. ..	6.5	7.9	9.6
Semi-government authorities .. ..	0.6	0.4	0.4
Departmental revenue, fees, rents, etc. ..	23.0	26.7	30.5
Victorian lotteries agreement .. ..	0.5	0.5	0.6
Australian Government national welfare fund	4.3	5.1	6.8
Transfer, accumulated revenue account ..	8.2	r 6.1	3.4
Total .. ..	402.1	460.5	518.7

### State Taxation

In 1973-74 in Tasmania the chief state taxes, in order of importance, were pay-roll tax; motor taxes; stamp duties (on cheques, legal documents, etc.); probate and succession duties; and land tax. Pay-roll tax, which was handed over to the State by the Australian Government for the 1971-72 financial year, has now become the largest single source of State tax revenue.

In the following tables, the figures shown for total taxes paid to Consolidated Revenue do not agree with those published by the State Treasurer. Excluded from the tables are amounts received from the Victorian Government under the Victorian Lotteries Agreement while 'motor taxes' includes amounts not treated as taxes by the State Treasurer. The following table gives a summary, for a three-year period, of State taxation taken into the Consolidated Revenue Fund:

State Taxation Collections Paid into Consolidated Revenue  
(\$'000)

Tax or licence	1971-72	1972-73	1973-74
Pay-roll tax .. ..	8 249	11 857	17 681
Deceased persons' estate duties .. ..	3 143	3 235	3 398
Stamp duties (a) .. ..	4 743	5 800	7 167
Land tax .. ..	2 799	2 961	3 055
Liquor tax and licences .. ..	1 346	1 426	1 590
Racing taxes .. ..	1 172	1 242	1 322
Motor taxes (b) .. ..	8 058	8 637	9 537
Hydro-Electric Commission statutory levy ..	804	1 251	1 362
Entertainment tax .. ..	109	126	153
Casino tax and licence fees .. ..	..	464	1 605
Tobacco tax and licence fees .. ..	..	559	1 247
Other licences .. ..	14	13	17
Total (c) .. ..	30 437	37 570	48 134

(a) Excludes: (i) stamp duties on bookmakers' tickets (included in 'racing taxes'); (ii) stamp duty on third party insurance (included in 'motor taxes'); and (iii) stamp duty on motor vehicle registrations (included in 'motor taxes').

(b) See following section 'Motor Taxes'.

(c) Excluded are the following amounts received from the Victorian Government under the Victorian Lotteries Agreement: 1971-72, \$179 000; 1972-73, \$200 000; 1973-74, \$228 000.

**Motor Taxes:** In the preceding table motor taxes are shown as \$9 537 000 for the year 1973-74. The next table shows how this figure can be reconciled with motor tax figures published by the State Treasurer:

**Motor Taxes (a) Paid to Consolidated Revenue Fund, 1973-74**  
( \$'000)

Item	Amount
Motor taxes (a) .. .. .	9 537
Less Stamp Duty on—Vehicle registration (b) .. .. .	609
Third party insurance (b) .. .. .	358
Traffic fees (c) paid to—Police Department .. .. .	833
Consolidated Revenue Fund .. .. .	1 400
	<hr/>
'Motor tax' as published by State Treasurer .. .. .	6 338

(a) See preceding table 'State Taxation Collections Paid into Consolidated Revenue Fund'.

(b) Treated as 'stamp duty tax' items by the State Treasurer.

(c) Includes motor vehicle registration fees, drivers' licences, charges for number plates, transfer of ownership fees and learners' permits.

Not all State taxation is paid into the Consolidated Revenue Fund, as shown in the following table:

**State Taxation Collections Paid to Special Funds**  
( \$'000)

Particulars	1971-72	1972-73	1973-74
Motor taxation—			
Retained by Transport Commission .. ..	80	82	88
Racing taxation—			
Paid to racing clubs and Racing Commission ..	477	522	551
Insurance companies—			
Contributions to fire authorities .. .. .	988	1 135	1 263
Total .. .. .	1 545	1 739	1 902

The following summarises total State taxation collections:

**Total State Taxation Collections (a)**  
( \$'000)

Particulars	1971-72	1972-73	1973-74
Paid into—Consolidated Revenue .. .. .	30 437	37 570	48 134
Special Funds .. .. .	1 545	1 739	1 902
Adjustment (b) .. .. .	—5	r+20	+17
Total .. .. .	31 977	r 39 328	50 054

(a) Taxation is described more fully in a subsequent section, 'Taxation in Tasmania'.

(b) An adjustment item is necessary to reconcile items referring to different accounting periods.

### Debt Charge Recoveries

After Australian Government grants and State taxation, debt charge recoveries is the next largest receipt item in Consolidated Revenue. The following table shows details of the payments of interest and sinking fund made by various authorities on advances which have been made to them by the State Government; since the advances have been made primarily from State loan borrowings, the Government has accepted an annual liability for debt charges (in respect of these authorities) approximately equal to the recoveries shown.

**Debt Charge Recoveries: Consolidated Revenue Fund**  
(\\$'000)

Source of recovery	Interest			Sinking fund contributions		
	1971-72	1972-73	1973-74	1971-72	1972-73	1973-74
Transport Commission ..	1 481	1 986	2 542	172	203	280
Metropolitan Transport Trust	143	145	144	21	21	21
Hydro-Electric Commission	18 282	19 613	21 084	2 375	2 587	2 800
Regional water supplies ..	1 064	1 123	1 132	143	149	155
Government Printing Office	14	6	3	3	4	3
King Island Abattoirs ..	20	21	21	3	3	3
Tasmanian grain elevators ..	38	34	45	10	10	10
Aluminium industry agree- ment .. .. .	131	131	131	..	..	..
Closer settlement ..	89	95	97	..	..	..
Returned soldiers settlement	17	16	15	..	..	..
Homes Act advances ..	39	30	27	..	..	..
Homes construction (Housing Department) .. ..	808	1 128	1 468	166	179	197
State advances, primary pro- ducers .. .. .	271	265	267	..	..	..
Loans to local bodies ..	56	57	68	..	..	..
Tourist accommodation loans	119	135	143	..	..	..
Loans to industry ..	373	381	473	..	..	..
Iron ore (Savage River Agree- ment Act) .. .. .	208	200	192	..	..	..
Forestry Department ..	451	500	550	..	..	..
Other .. .. .	931	858	1 050	2	2	2
<b>Total .. .. .</b>	<b>24 536</b>	<b>26 725</b>	<b>29 453</b>	<b>2 895</b>	<b>3 157</b>	<b>3 471</b>

**Consolidated Revenue Fund—Expenditure**

In the following table a summary is given of the principal items of Consolidated Revenue Fund expenditure classified according to purpose:

**Consolidated Revenue Fund: Expenditure by Purpose (a)**  
(\\$'000)

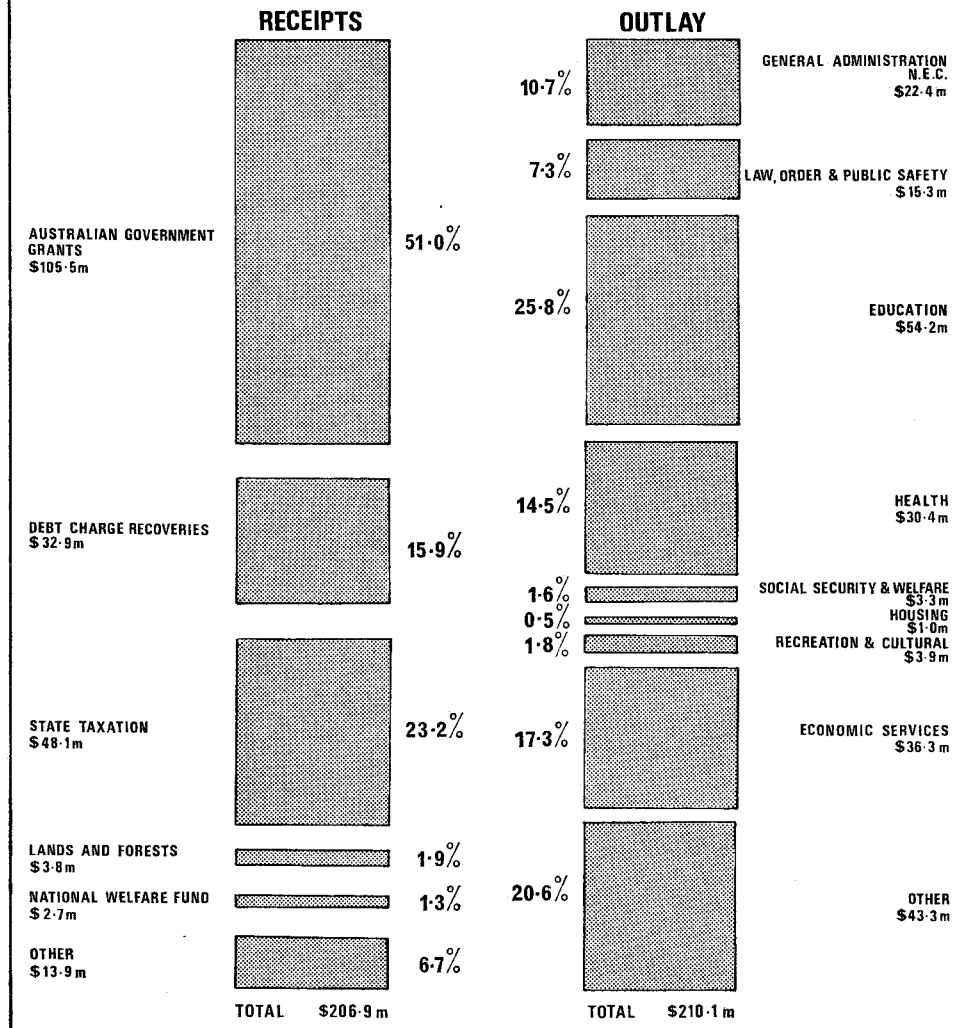
Purpose	1971-72	1972-73	1973-74
General administration <i>n.e.c.</i> .. .. .	17 816	18 923	22 442
Law, order and public safety—			
Law courts and legal services .. .. .	2 065	2 442	2 939
Correctional and custodial services .. .. .	1 328	1 490	1 873
Police services .. .. .	6 396	7 846	9 397
Fire protection .. .. .	554	646	886
Road safety .. .. .	92	108	153
Other .. .. .	13	14	15
<b>Total .. .. .</b>	<b>10 447</b>	<b>12 546</b>	<b>15 263</b>
Civil defence .. .. .	55	72	74
Education—			
General administration, regulation and research ..	1 466	1 672	2 091
Student transport .. .. .	2 252	2 459	2 818
Primary and secondary .. .. .	26 621	30 520	38 351
Technical .. .. .	1 744	2 272	3 060
University .. .. .	2 664	3 312	2 067
Other higher education .. .. .	4 923	6 384	4 871
Handicapped children .. .. .	443	530	696
Other .. .. .	187	210	293
<b>Total .. .. .</b>	<b>40 299</b>	<b>7 358</b>	<b>54 246</b>

**Consolidated Revenue Fund: Expenditure by Purpose (a)—continued**  
 (\$'000)

Purpose	r1971-72	r1972-73	1973-74
<b>Health—</b>			
General administration, regulation and research..	708	804	912
Mental health .. .. .	3 408	4 094	4 753
Other hospital and clinical services .. .. .	14 624	17 066	22 132
Preventive services .. .. .	314	333	371
Maternal and infant health .. .. .	374	435	497
Other health services .. .. .	1 331	1 388	1 471
Ambulance services .. .. .	164	263	265
<b>Total .. .. .</b>	<b>20 923</b>	<b>24 384</b>	<b>30 401</b>
<b>Social security and welfare—</b>			
General administration, regulation and research..	222	285	370
Aged persons .. .. .	47	131	76
Unemployed and sick persons and unemploy- ment relief .. .. .	1 723	5 832	703
Family and child care and assistance .. .. .	831	941	1 118
Other .. .. .	818	1 217	1 028
<b>Total .. .. .</b>	<b>3 641</b>	<b>8 405</b>	<b>3 296</b>
<b>Housing—</b>			
General administration, regulation and research..	352	500	963
Home finance services, <i>n.e.c.</i> .. .. .	52	51	51
<b>Total .. .. .</b>	<b>405</b>	<b>551</b>	<b>1 014</b>
<b>Protection for the environment .. .. .</b>	<b>27</b>	<b>109</b>	<b>277</b>
<b>Recreation and related cultural services—</b>			
Cultural facilities .. .. .	1 288	1 731	2 239
Support for creative and performing arts .. .. .	46	55	55
Recreational facilities .. .. .	548	784	956
Other .. .. .	433	461	618
<b>Total .. .. .</b>	<b>2 315</b>	<b>3 031</b>	<b>3 868</b>
<b>Economic services—</b>			
General administration, regulation and research..	654	793	980
Soil and water resources management .. .. .	2 461	3 069	3 824
Forest resources management .. .. .	1 815	2 127	2 517
Other services to agricultural and pastoral indus- tries .. .. .	4 235	4 788	5 903
Mining and services to mining .. .. .	964	1 104	1 279
Manufacturing and services to manufacturing .. .. .	163	242	279
Electricity supply services .. .. .	20	31	43
Water supply services .. .. .	981	1 182	1 316
<b>Transport and communication—</b>			
Roads and ancillary services .. .. .	6 138	6 534	6 984
Sea transport .. .. .	163	184	223
Urban bus services .. .. .	1 310	1 692	2 520
Other (including railways) .. .. .	5 891	6 362	7 855
Other .. .. .	1 784	2 145	2 569
<b>Total .. .. .</b>	<b>26 579</b>	<b>30 253</b>	<b>36 292</b>
<b>Other .. .. .</b>	<b>37 731</b>	<b>40 366</b>	<b>42 923</b>
<b>Total .. .. .</b>	<b>160 237</b>	<b>185 998</b>	<b>210 097</b>

(a) Based on Australian purpose classification developed for analysis of government sector accounts; not strictly comparable with functional classifications published in Year Books prior to the 1975 edition.

# CONSOLIDATED REVENUE FUND 1973-74



*Public Debt Charges*

This is the largest item of expenditure but a high proportion is recovered from semi-government authorities. The next table shows the net burden on Consolidated Revenue Fund of debt charges:

**Public Debt Charges: Net Burden on Consolidated Revenue**  
( '\$000)

Particulars	Interest			Sinking fund contribution		
	1971-72	1972-73	1973-74	1971-72	1972-73	1973-74
Expenditure from Consolidated Revenue .. ..	(a)37 890	(a)40 169	(a)43 013	(b) 5 595	(b) 6 027	(b) 6 354
Recovered from semi-government bodies, etc. .. ..	24 536	26 725	29 453	2 895	3 157	3 471
Net burden on Consolidated Revenue (c) .. ..	13 354	13 444	13 560	2 700	2 870	2 883

(a) Includes loan management charges.

(b) Contribution payable under the Financial Agreement to the National Debt Sinking Fund.

(c) In respect of non-revenue producing assets such as schools, roads, etc.

*Government Railways and Bus Services*

Unlike the Consolidated Revenue Funds of some Australian states, the Tasmanian Fund excludes the *gross* receipts and expenditure of State business undertakings such as railways, bus services, etc. The principal charge in 1973-74 under this item was in respect of the *net* loss incurred by the Transport Commission during 1972-73 (\$7 795 672). Another major item was a contribution of \$2 520 000 to the Metropolitan Transport Trust which experienced a net trading loss of \$1 674 819 in 1972-73.

*Roads and Bridges*

The chief expenditure under this item in 1973-74 was a transfer of \$6 338 069 to the State Highways Trust Fund, representing revenue received from motor tax and public vehicle fees. Grants totalling \$1 519 000 were paid from Consolidated Revenue Fund to the Transport Commission to cover the cost of vehicle registration and traffic control.

**State Trust and Special Funds**

State revenues are payable to Consolidated Revenue with the exception of certain revenues which have been set aside by acts of Parliament for specific purposes and which are payable into special funds or accounts at the State Treasury. The volume of these transactions is high, \$210 539 070 being received in 1973-74, \$208 120 221 being expended and the balance in the funds changing from \$11 224 309 (1 July 1973) to \$13 643 159 (30 June 1974).

It should be noted that many accounts in the Trust and Special Funds indicate Treasury transactions which are merely supplementary to those recorded under Consolidated Revenue and Loan Funds; the following examples are given:

## State Trust and Special Funds: Selected Accounts, 1973-74

(\$'000)

Account	Receipts	Expenditure
Commonwealth Tax Deductions Suspense Account (a) .. ..	18 639	18 639
Hydro-Electric Commission Suspense Account (b) .. ..	325	272

- (a) Wages and salaries included under Consolidated Revenue and Loan Fund expenditure are shown at gross value; however, the deductions applicable to wage and salary earners on Tasmanian Government pay-rolls are passed, via this account, to the Australian Government.
- (b) The Treasury acts as agent for meeting overseas liabilities incurred by the Hydro-Electric Commission; these liabilities, mainly incurred in the acquisition of plant and equipment, are largely accounted for in Loan Fund expenditure.

Some accounts are concerned with government activities financed by the Australian Government, the State acting as trustee or agent in the transactions; examples follow:

## State Trust and Special Funds: Selected Federal Accounts, 1973-74

(\$'000)

Account	Receipts	Expenditure
Tasmanian University (Commonwealth Grants) Account (a) ..	6 412	6 354
Commonwealth Free Milk Scheme Account (b) .. ..	541	439
Home Builders Account (c) .. .. .	1 206	2 272

- (a) Treasury passed Australian Government grants to University of Tasmania.
- (b) Education Department administered Free Milk Scheme for school children on behalf of the Australian Government.
- (c) Agricultural Bank administered loans to home builders, the source of funds being the Australian Government.

In the case of some accounts, there is provision for crediting the Trust and Special Funds with contributions from Consolidated Revenue, an important example being the State Highways Trust Fund:

## State Trust and Special Funds: State Highways Trust Fund, 1973-74

(\$'000)

Item	Receipts	Expenditure
Australian Government contribution .. .. .	13 950	..
Grants from Consolidated Revenue .. .. .	6 338	..
Roads, bridges, jetties, ferries and planning .. .. .	459	20 772
Self-balancing entries .. .. .	1 650	1 650
Fund entries .. .. .	22 397	22 423

The Forestry Fund Account records transactions under legislation requiring revenue from forestry to be paid to Consolidated Revenue, and for Consolidated Revenue to expend an equal amount on forestry in the following year:

## State Trust and Special Funds: Forestry Fund Account, 1973-74

(\$'000)

Item	Receipts	Expenditure
Grants from Consolidated Revenue (a) .. .. .	2 517	..
Expenditure on forestry .. .. .	..	2 553
Reimbursement, Softwood Forestry Agreement .. .. .	36	..
Self-balancing entries .. .. .	884	884
Fund entries .. .. .	3 437	3 437

- (a) Consolidated Revenue recorded forestry receipts of \$2 517 000 in 1972-73; this sum therefore became the 1973-74 contribution from Consolidated Revenue.



Some of the funds held in trust are not owned by the State Government, e.g. St John's Park Inmates Trust Account. Other funds are held on behalf of semi-government authorities, e.g. Agricultural Bank.

### State Loan Fund

Expenditure from the Loan Fund is devoted to two main purposes: (i) the making of advances to State semi-government authorities; and (ii) the carrying out of the State's own works programme. Such funds, whether lent to other authorities for their works programmes or spent directly by the State, result in the creation of new capital assets, a large proportion of which are revenue earning and therefore capable of reimbursing the State for the debt charges which it has incurred. (An earlier section on Consolidated Revenue expenditure shows the gross and net expenditure on annual debt charges.) In addition, conversion of existing loans is effected from the Loan Fund, but the amounts involved have been excluded from the next two tables as these transactions only alter the rates, sources or terms of existing public debt. Details of these debt servicing transactions are contained in a later table, 'Net Loan Fund Expenditure—Reconciliation'.

In addition to money from loan raisings, the Loan Fund may record other receipts such as the repayment of advances which had been made from the Fund to some Government authorities and community organisations, and contributions to capital works by the Australian Government.

Traditionally, loan expenditure has been recorded on both gross and net bases. The annual net loan expenditure is equal to the disbursement of borrowings during the year for new capital purposes as distinct from borrowings for the conversion of existing debt, plus disbursements from funds made available by the repayment of advances, and capital contributions by the Australian Government as above, augmented or diminished by the net movement in the Loan Fund balance. The following table shows the calculation of net loan expenditure from two viewpoints: (i) as a residue from gross loan expenditure; and (ii) as the algebraic sum of new loan raisings for new capital purposes, the net movement in the Loan Fund balance and discount and capital appreciation expenses.

State Loan Fund: Calculation of Net Loan Expenditure  
(\$'000)

Particulars	1971-72	1972-73	1973-74
(i) Gross loan expenditure .. .. .	73 037	76 813	73 947
Less Repayments .. .. .	3 000	4 324	4 684
Less Australian Government grants .. ..	3 769	5 246	4 660
Net loan expenditure .. .. .	66 268	67 243	64 603
(ii) Gross borrowings for new capital purposes (a)	47 028	51 254	43 502
Australian Government grant .. .. .	15 310	17 367	20 549
Movement in Loan Fund balance (b) .. ..	+3 789	-1 500	+ 320
Other (c) .. .. .	141	122	232
Net Loan Expenditure .. .. .	66 268	67 243	64 603

(a) Includes discount on borrowings for new capital purposes. Amounts were: 1971-72, \$8 000; 1972-73, \$2 000; 1973-74, \$35 000.

(b) Negative sign (—) indicates an increase from opening to closing balance, plus sign (+) indicates a decrease.

(c) Discount on borrowings for conversion and re-financing purposes and capital appreciation items.

The following table shows annual gross and net loan expenditure:

Loan Fund: Gross and Net Loan Expenditure  
(\$'000)

Year	Loan expenditure		Year	Loan expenditure	
	Gross	Net		Gross	Net
1956-57 .. ..	23 544	22 038	1965-66 .. ..	39 411	36 573
1957-58 .. ..	23 390	21 666	1966-67 .. ..	40 161	36 636
1958-59 .. ..	27 610	25 112	1967-68 .. ..	46 054	42 128
1959-60 .. ..	29 130	26 442	1968-69 .. ..	44 458	40 164
1960-61 .. ..	33 866	30 612	1969-70 .. ..	49 411	45 069
1961-62 .. ..	32 520	30 088	1970-71 .. ..	52 079	47 393
1962-63 .. ..	33 332	30 510	1971-72 .. ..	73 037	66 268
1963-64 .. ..	35 354	32 905	1972-73 .. ..	76 813	67 243
1964-65 .. ..	35 816	33 352	1973-74 .. ..	73 947	64 603

The next table shows Loan Fund payments classified according to purpose:

Loan Fund Payments Classified by Purpose (a)  
(\$'000)

Purpose	1971-72	1972-73	1973-74
Part 1: Net payments by purpose (b)—			
General administration, <i>n.e.c.</i> .. ..	1 343	1 874	2 146
Law, order and public safety—			
Law courts and legal services .. ..	165	161	919
Correctional and custodial services .. ..	198	112	265
Police services .. ..	1 277	1 884	3 063
Fire protection services .. ..	65	60	100
Other .. ..	110	80	79
Total .. ..	1 815	2 297	4 426
Education—			
General administration, regulation and research	2 013	2 638	3 397
Primary and secondary .. ..	4 764	5 223	5 932
Technical .. ..	114	612	419
University .. ..	338	1 260	775
Other higher education .. ..	1 179	2 021	1 234
Adult education .. ..	..	47	57
Total .. ..	8 409	11 802	11 814
Health—			
Mental health .. ..	386	181	219
Other hospital and clinical services .. ..	4 064	2 654	3 209
Ambulance services .. ..	106	93	91
Total .. ..	4 555	2 928	3 520
Social security and welfare—			
Aged persons .. ..	488	435	872
Family and child care and assistance .. ..	17	75	23
Total .. ..	505	510	895

**Loan Fund Payments Classified by Purpose (a)—continued**  
(\\$'000)

Purpose	r1971-72	r1972-73	1973-74
Housing and home finance services .. ..	(c) 7 882	(c) 8 518	- 821
Recreation and related cultural services—			
Cultural facilities .. .. .	791	419	529
Recreational facilities .. .. .	172	276	732
Total .. .. .	963	695	1 261
Economic services—			
Soil and water resource management .. ..	94	135	11
Forest resources management .. .. .	2 143	2 560	3 098
Other services to agricultural and pastoral industries .. .. .	604	127	-10
Mining and services to mining .. .. .	-272	-234	-278
Manufacturing and services to manufacturing ..	148	-312	-5
Electricity supply (H.E.C.) .. .. .	26 000	22 360	23 000
Water supply services .. .. .	604	485	622
Transport and communication—			
General administration, regulation and research .. .. .	193	- 50	1 578
Rail transport .. .. .	4 837	11 494	7 388
Sea transport .. .. .	896	-1 087	1
Road and ancillary systems .. .. .	901	514	828
Other .. .. .	369	186	1 144
Total .. .. .	36 516	36 177	37 378
Natural disaster relief .. .. .	-220	- 60	- 89
Deficits funded .. .. .	4 350	2 377	3 805
Sinking fund and redemption (incl. conversions)	61 622	47 992	79 339
Part 2: Total repayments to Loan Fund (b) (d) ..	6 769	9 570	9 344
Total payments from Loan Fund ..	134 510	124 682	153 019

(a) Based on Australian purpose classification developed for analysis of government sector accounts; not strictly comparable with functional classification published in Year Books prior to the 1975 edition.

(b) Part 1 payments for each purpose are gross, less repayments; part 2 shows repayments in total.

(c) For 1971-72 and 1972-73 allocations for State housing programmes formed part of State borrowings and were credited to Loan Fund.

(d) Includes minor Australian Government grants taken into Loan Fund.

The item 'Total repayments to Loan Fund' in the preceding table includes minor grants received from the Australian Government and credited to Loan Fund (the total amount in 1973-74 was \$4 660 000), but excludes the major grant for capital purposes (\$20 549 000, 1973-74). Principal minor Australian Government grants credited to Loan Fund in 1973-74 were for: (i) Department of Education, \$3 015 000; (ii) advanced education, \$844 000; and (iii) University of Tasmania, \$638 000. Principal payments to Loan Fund from State sources were: (i) repayments under the *Industrial Development Act* 1954, \$953 000; (ii) *State Advances Act* 1935, \$998 000; (iii) repayments under the *Homes Act* 1935, \$604 000; (iv) repayments by the Transport Commission under the *Transport Act* 1938, \$208 000; and (v) repayment of tourist and accommodation loans, \$205 000.

The following table shows how a reconciliation may be obtained between total Loan Fund payments in the previous table and net Loan Fund expenditure.

**Net Loan Fund Expenditure: Reconciliation**  
(\\$'000)

Particulars	1971-72	1972-73	1973-74
Total payments from Loan Fund .. .. .	134 510	124 682	153 019
<i>Less</i> Debt service transactions—			
Conversion (Australia) .. .. .	56 567	41 688	38 534
Conversion (State Savings Bank Agreement) ..	960	960	960
Redemption from new cash borrowing .. ..	4 096	5 344	39 845
Loan Fund expenditure for new capital purposes	72 888	76 689	73 680
<i>Plus</i> Capital appreciation on special bonds .. ..	141	122	232
<i>Plus</i> Discount allowed on borrowings .. ..	8	2	35
Gross Loan Fund expenditure .. .. .	73 037	76 813	73 947
<i>Less</i> Total repayments to Loan Fund .. ..	6 769	9 570	9 344
Net Loan Fund expenditure (a) .. ..	66 268	67 243	64 603

(a) As specified in the Treasurer's Statement.

The relationship between aggregate net loan expenditure, total loans raised and the State Public Debt is established in the following table:

**Aggregate Net Loan Expenditure and State Public Debt at 30 June**  
(\\$'000)

Particulars	1972	1973	1974
Aggregate net loan expenditure .. .. .	833 310	900 554	965 157
Unexpended balance, Loan Fund .. .. .	1 310	2 810	2 490
Grand total loans raised .. .. .	834 621	903 364	967 647
<i>Less</i> Aggregate redemptions from sinking funds ..	91 368	98 432	105 479
<i>Less</i> Liability for exchange on overseas redemption	8 692	8 692	8 692
<i>Less</i> Australian Government grant (a) .. ..	29 290	46 657	67 206
State public debt .. .. .	705 271	749 583	(b) 786 270

(a) Capital grant provided to replace amounts which would otherwise have been obtained as loan borrowings.

(b) Overseas component is \$8 312 000, quoted at rates of exchange prevailing on 1 July 1927.

The *Public Account Act* 1962 has, amongst other things, the following provisions relating to the Loan Fund: (i) the Governor, on Treasury advice, may make transfers between block votes as long as the total authorised amount is not exceeded; (ii) a sum of up to \$400 000 may be spent for purposes not previously authorised; (iii) for purposes previously authorised, an additional sum of up to \$1m may be spent; (iv) in instances of expenditure outside the provisions of a specific Loan Fund Appropriation Act, the ratification of such action is to be sought from Parliament before the close of the following financial year. The Act also provides for the unexpended balances of votes at the close of the financial year to lapse.

### State Public Debt

The State public debt is calculated on two bases: (i) with overseas debt calculated at 'mint par of exchange', i.e. at the exchange rates prevailing on 1 July 1927; and (ii) with overseas debt calculated at current rates of exchange. 'Mint par debt' is the official debt for the purpose of determining sinking fund contributions payable under the Financial Agreement, 1927.

The following table shows the State public debt calculated on both bases:

State Public Debt at 30 June 1974: At Mint Par of Exchange and at Current Rates of Exchange

Place in which debt repayable	\$ Aust. at mint par of exchange		\$ Aust. at current rates of exchange	
	Conversion rate of \$A (a)	Debt (\$'000)	Conversion rate of \$A (b)	Debt (\$'000)
Australia .. ..	.. ..	777 958	.. ..	777 958
London .. ..	£0.5 sterling	5 152	£0.6219 sterling	4 142
New York .. ..	U.S. \$2.43325	2 352	U.S. \$1.4872	3 849
Canada .. ..	C. \$2.43325	301	C. \$1.4425	507
Switzerland .. ..	S. Francs 12.61965	293	S. Francs 4.4392	834
Netherlands .. ..	Guilders 6.053925	213	Guilders 3.9354	328
Total .. ..	.. ..	786 270	.. ..	787 618

(a) Exchange rates at 1 July 1927 (rate for £A0.5).

(b) Exchange rates at 30 June 1974 for \$A1.

The most significant changes between the 1927 rates of exchange and those current today occurred in eight stages: (i) 1930, when the Australian pound was devalued by 20 per cent in relation to sterling; (ii) 1949, when the Australian pound was devalued 30.5 per cent parallel to a similar devaluation in sterling; (iii) 1967, when the pound sterling was devalued 14.3 per cent (but the decision was taken not to devalue the \$A); (iv) 1971, when the Australian dollar, although remaining within the fluctuation limits of the International Monetary Fund, was devalued 2.25 per cent following a 7.89 per cent devaluation of the United States dollar; (v) December 1972, when the Australian dollar was revalued against the United States dollar to give an effective appreciation of the Australian dollar of 7.05 per cent; (vi) February 1973, by the retention of the value against gold of the Australian dollar despite a 10 per cent devaluation of the United States dollar (this had the effect of further appreciating the Australian dollar); (vii) September 1973, when the Australian dollar was revalued against the United States dollar by 5 per cent; and (viii) September 1974, when the Australian dollar was devalued by 12 per cent and the direct link with the United States dollar was discontinued.

The growth of the public debt, expressed at mint par of exchange, is shown in the following table:

State Public Debt: Place of Flotation and Interest Payable  
(\$'000)

At 30 June	Debt redeemable in—						Total debt	Interest payable (a)
	London	New York	Canada	Switzer- land	Nether- lands	Australia		
1965 .. ..	17 544	4 430	473	293	399	439 163	462 302	21 707
1966 .. ..	13 733	5 743	444	293	399	471 045	491 658	23 987
1967 .. ..	13 643	5 284	419	293	399	504 880	524 918	25 940
1968 .. ..	8 382	4 913	393	293	372	546 539	560 893	27 778
1969 .. ..	8 082	4 549	387	293	346	586 078	599 736	30 040
1970 .. ..	6 674	4 178	368	293	319	625 575	637 407	32 939
1971 .. ..	6 154	3 778	350	293	293	654 530	665 397	36 203
1972 .. ..	5 914	3 301	330	293	266	695 167	705 271	39 202
1973 .. ..	5 412	2 657	309	293	240	740 672	749 583	41 620
1974 .. ..	5 152	2 352	301	293	213	777 958	786 270	45 922

(a) Interest payable at rate of exchange which was current in the year of payment.

A notable feature of the State public debt is that approximately 99 per cent of indebtedness (at current rates of exchange) is now domiciled in Australia. There has been a gradual change from the situation which existed a century ago when nearly all loans were financed in London. In 1870, the State's public debt (\$2 537 400) was wholly redeemable in London and even in 1900, less than 10 per cent of the State debt was redeemable in Australia.

### Public Debt Transactions

The following table shows particulars of loans raised and redeemed annually during the most recent three-year period (expressed at mint par of exchange) and also the transactions for the current year expressed at current rates of exchange. It will be observed that redemption of loans falling due in any particular year is achieved, in the main, by conversion (i.e. by renewal of the original loans on new terms and conditions).

**State Public Debt: Conversion and Redemption**  
(*\$'000*)

Particulars	At mint par of exchange			At current rates
	1971-72	1972-73	1973-74	1973-74
Loans raised for—				
New capital purposes .. .. .	47 028	51 254	43 490	43 490
Conversion purposes .. .. .	57 527	42 648	39 494	39 494
Redemption, maturing loans .. .. .	4 096	5 344	39 857	39 857
Total raisings .. .. .	108 651	99 245	122 841	122 841
Less Loans redeemed—				
By conversion .. .. .	57 527	42 648	39 494	39 494
From new cash raisings .. .. .	3 955	5 222	39 613	39 613
From National Debt Sinking Fund .. .. .	7 295	7 064	7 048	(a) 8 106
<i>Net</i> increase in public debt .. .. .	39 874	44 312	36 686	35 628
Debt at end of year .. .. .	705 271	749 583	786 270	787 618

(a) Includes a balancing item due to fluctuation in exchange rates during the year, the actual redemption being \$7 105 000.

The next table summarises the transactions of the National Debt Commission in relation to the Tasmanian public debt:

**National Debt Commission: Transactions in Respect of Tasmanian Public Debt**  
(*\$'000*)

Particulars	1970-71	1971-72	1972-73	1973-74
Balance at beginning of period .. .. .	724	555	209	671
Contributions—				
From—Australian Government .. .. .	1 694	1 825	1 934	2 044
State Government .. .. .	5 263	5 579	6 008	6 339
Interest received (net) .. .. .	16	13	11	26
Funds available .. .. .	7 697	7 972	8 162	9 080
Deduct—				
Redemption and re-purchase (a)—				
At mint par of exchange .. .. .	6 768	7 295	7 063	7 048
Exchange adjustment .. .. .	373	468	428	58
Balance at end of period .. .. .	555	209	671	1 974

(a) At rates of exchange which were current at the date of redemption or re-purchase.

The National Debt Commission was established as part of the 1927 Financial Agreement and its function is to administer a single consolidated sinking fund in respect of the debt of the Australian and state governments. (The obligations of the states and the Australian Government in contributing to the consolidated sinking fund are set out earlier in this chapter in a section headed 'Payments Under the Financial Agreement (1927)').

## TAXATION

### Taxation in Tasmania

As Australian citizens, Tasmanians are subject to taxes levied both by the State and the Australian Government. The next table shows taxes (total amounts and per capita figures) collected by the State Government and semi-government authorities in Tasmania and Australian Government collections for Australia:

Taxation: State of Tasmania and Australian Government, 1973-74 (a)

Tax	Amount (\$'000)		Per head of population (\$)	
	Tasmania (b)	Australian Government (c)	Tasmania	Australian Government
Income (personal and company) .. .. .	..	7 518 306	..	566.62
Customs and excise .. .. .	..	2 159 011	..	162.72
Sales .. .. .	..	968 725	..	73.01
Pay-roll .. .. .	17 681	7 701	44.31	0.58
Probate and succession duties .. .. .	3 398	66 018	8.52	4.98
Motor .. .. .	9 625	..	24.12	..
Stamp duties .. .. .	7 167	..	17.96	..
Land .. .. .	3 055	..	7.66	..
Racing .. .. .	1 890	..	4.74	..
Liquor .. .. .	1 590	..	3.98	..
H.E.C. statutory levy .. .. .	1 362	..	3.41	..
Levy on insurance companies for fire author- ities .. .. .	1 263	..	3.17	..
Entertainment .. .. .	153	..	0.38	..
Broadcast listeners' and television viewers' licences .. .. .	..	68 459	..	5.16
Casino tax and licence fees .. .. .	1 605	..	4.02	..
Tobacco tax and licence fees .. .. .	1 247	..	3.13	..
Primary production taxes .. .. .	..	64 440	..	4.86
All other .. .. .	17	83 797	0.04	6.32
Total .. .. .	50 054	10 936 457	125.45	824.24

(a) Collections from all sources, including amounts paid to special funds.

(b) State taxes collected by Tasmanian Government and other state authorities.

(c) Australian Government taxes collected for Australia as a whole.

In addition to the taxes shown in the above table Tasmanian property owners also pay rates and licence fees to local government authorities. Total rates and licence fees collected during 1973-74 amounted to \$25.6m or \$64.19 per head of mean population.

Assuming that Tasmanians contributed to Australian Government taxation in strict proportion to the relative mean populations of the State and Australia, it would be theoretically correct to add the two per capita figures (\$125.45 and \$824.24) and arrive at a figure of \$949.69 as the total per capita taxation of the Tasmanian and Australian Governments within the State. An alternative way of



examining the problem is to refer to total Australian Government taxes collected in Tasmania but this measure is unsatisfactory for a number of reasons, the chief defects being:

- (i) Central office collections of Australian Government taxation ceased at 30 June 1970 and for the income years after 1969-70 all assessments are being handled in state offices of the Taxation Department. The effects of this change are deceptive because income tax collected in Tasmania does not necessarily directly relate to income earned in Tasmania since a company with branches in Tasmania but with its head-office in Melbourne may make its return to the Victorian Taxation Office.
- (ii) Goods shipped to Tasmania will, in some cases, already have been taxed in another state in respect of customs or sales taxes. Even though other states are credited with the collection of these taxes, the fact remains that Tasmanians bear their incidence in the form of increased commodity prices. The amount of tax collected in other Australian states on goods shipped to Tasmania is not known.

### Estimated Incidence

In assessing the collection in other Australian states of the main taxes affecting Tasmanians, account is taken of selected sales figures derived from the latest Retail Census which showed Tasmanian *per head* sales to be 92.5 per cent of the corresponding Australian figure. Accordingly the *per head* incidence of customs and sales taxes in Tasmania is taken to be 92.5 per cent of the Australian *per head* collection figure for each tax. Estimates are compiled using these *per head* figures and the State's mean population.

The following table shows actual collections of the Australian Government taxes in the State and also the estimated incidence of taxes collected elsewhere in Australia:

**Taxation: Collected by the Australian Government in Tasmania and Elsewhere,  
and Estimated Incidence in Tasmania  
(\$'000)**

Tax	1971-72	1972-73	1973-74
Collected in Tasmania—			
Income tax (a) .. .. .	103 715	110 888	148 078
Estate duty (a) .. .. .	1 136	1 156	1 281
Pay-roll tax .. .. .	2 035	49	14
Gift duty .. .. .	134	169	173
Stevedoring industry charge .. .. .	1 043	1 183	1 108
Broadcast listeners' and television viewers' licences	1 670	1 870	1 879
Primary production taxes .. .. .	594	836	1 246
Sales tax .. .. .	13 584	12 861	15 679
Customs .. .. .	2 490	4 239	3 744
Excise .. .. .	32 053	33 147	42 824
Other .. .. .	77	144	271
Total collected in Tasmania .. ..	158 530	166 542	216 297
Collected elsewhere in Australia (b)—			
Sales tax .. .. .	5 576	8 494	11 267
Customs .. .. .	10 704	10 095	13 069
Estimated incidence .. .. .	r 174 810	r 185 131	240 633

(a) Central Office collections ceased; however, tax collected in Tasmania may not directly relate to income earned and assets in Tasmania since a multi-state return can be lodged in any one state office.

(b) Estimated; goods on which these taxes were paid are assumed to have been sold in Tasmania.

*Australian Government Income Tax*

Income tax, the most important revenue raising levy in Australia, was introduced in 1884 by the colony of South Australia. In the course of time this form of taxation was adopted by all the Australian governments between 1884 and 1915. From 1915 to 1942 the state and Australian governments imposed taxation concurrently, the rate of state income tax varying from state to state.

Uniform taxation on incomes throughout Australia was adopted in 1942, as a war measure, when the Australian Government became the sole authority levying this tax.

Expenses incurred in producing assessable income and certain losses incurred in previous years may be allowable deductions in calculating taxable income.

For the income year 1974-75, tax was payable on the incomes of individuals and commenced at a taxable income of \$1 041. However, certain limitations applied to the tax payable by aged persons, over 65 years of age in the case of a male and over 60 years in the case of a female. Concessional deductions were allowed to taxpayers on account of dependants, certain medical and dental expenses, life insurance premiums and superannuation contributions (up to \$1 200), medical or hospital benefit fund contributions and education expenses (up to \$150 per dependant), self-education expenses of the taxpayer (up to \$150), a proportion of housing loan interest payments (first introduced in 1974-75) etc.; these outlays can be subtracted from gross income to calculate taxable income. Dependants included spouse, parents, parents-in-law, children under 16 years of age, student dependants under 25 years of age, invalid relative over 16 years of age, or daughter-housekeeper for widow or widower so long as they were maintained wholly or in part by the taxpayer during the year. A concessional deduction might be allowed for a housekeeper having the care of children under 16 years of age or of an invalid relative where the taxpayer did not contribute to the maintenance of a spouse or daughter-housekeeper. The maximum concessional deduction allowable in respect of each type of dependant and housekeeper was:

spouse, \$364; parent or parent-in-law, \$364; children under 16 years, one child, \$260, other children, \$208; student dependants, 16 to 25 years, \$260 each; invalid relative not less than 16 years, \$260 each; housekeeper or daughter-housekeeper, \$364.

A further rebate was allowable on concessional deductions for dependants where taxable income was less than \$7 000 and the tax saving would ordinarily have been less than 40 cents for each dollar of those deductions. The rebate, introduced in the 1974-75 income year, was designed to allow lower income earners to save a minimum of 40 cents tax for each dollar of allowable deductions for dependants.

For income years 1954-55 to 1969-70 the basic scale for income tax on individuals remained the same except that general five per cent rebates were allowed in 1959-60, 1961-62, 1962-63, and 1963-64; and a 2½ per cent levy was added for the period 1965-66 to 1969-70. For 1970-71 the basic scale was revised as follows: (i) on incomes up to \$10 000 a reduction of 10 per cent; (ii) on incomes \$10 000 to \$32 000 a lesser reduction tapering to zero (the reduction at \$20 000 was 4.4 per cent). The revised 1970-71 basic scale was still subject to a 2½ per cent levy. The levy for 1971-72 was 4.375 per cent.

The 1972 budget introduced major changes to personal income taxation rates. The changes were:

- (i) a relaxation of the minimum taxable income from \$417 to \$1 041;
- (ii) a sliding scale reduction to give greater reduction to lower income levels; and
- (iii) an increase in the level above which the maximum marginal rate of tax applies from \$20 000 to \$40 000.

Since 1972-73, the basic principle of: (i) the minimum taxable income on which tax is payable being \$1 041; and (ii) the maximum marginal rate of tax applying to taxable incomes in excess of \$40 000, has continued unchanged. However, there have been several changes to the taxation rates with emphasis on reducing the severity of taxation on lower income levels.

Income tax rates were revised by the 1974-75 Budget (effective from 1 November 1974) and again on 1 January 1975. In addition, a surcharge on the tax on property income was introduced in 1974-75. Taxpayers with a taxable income exceeding \$5 000 and including income from property (i.e. interest, dividends, rents, etc.) were subject to a surcharge of up to 10 per cent of the tax payable on the property income. For incomes between \$5 000 and \$5 500 the rate of the surcharge was 0.02 per cent for each dollar of taxable income in excess of \$5 000. (For example, the rate of surcharge to be levied on any property income included in a taxable income of \$5 300 was  $0.02 \times 300\% = 6\%$ .) On taxable incomes of \$5 500 and above the rate of the surcharge was 10 per cent. The surcharge was then calculated in accordance with the following formula:

$$\text{Amount of surcharge} = \$ (\text{rate of surcharge} \times \frac{\text{tax at normal rates}}{\text{taxable income}} \times \text{property income})$$

The following table shows the rates of income tax for individuals for the income year 1974-75 (See Appendix A for new rates for 1975-76):

**Australia: Personal Income Tax Payable on Selected Incomes, Income Year 1974-75**

Taxable income	Tax payable	Tax rate		Taxable income	Tax payable	Tax rate	
		On taxable income	Marginal (a)			On taxable income	Marginal (a)
\$	\$	per cent	cents per \$	\$	\$	per cent	cents per \$
1 041 (b) ..	0.66	0.1	66	8 000 ..	1 820.00	22.8	48
1 062 ..	14.34	1.4	7	8 400 ..	2 012.00	24.0	48
1 100 ..	17.00	1.5	7	8 800 ..	2 204.00	25.0	48
1 200 ..	24.00	2.0	7	9 200 ..	2 396.00	26.0	48
1 600 ..	52.00	3.3	7	9 600 ..	2 588.00	27.0	48
2 000 ..	80.00	4.0	14	10 000 ..	2 780.00	27.8	52
2 400 ..	136.00	5.7	14	11 000 ..	3 300.00	30.0	52
2 800 ..	192.00	6.9	14	12 000 ..	3 820.00	31.8	55
3 200 ..	260.00	8.1	20	13 000 ..	4 370.00	33.6	55
3 600 ..	340.00	9.4	20	14 000 ..	4 920.00	35.1	55
4 000 ..	420.00	10.5	26	15 000 ..	5 470.00	36.5	55
4 400 ..	524.00	11.9	26	16 000 ..	6 020.00	37.6	60
4 800 ..	628.00	13.1	26	17 000 ..	6 620.00	38.9	60
5 200 ..	744.00	14.3	32	18 000 ..	7 220.00	40.1	60
5 600 ..	872.00	15.6	32	19 000 ..	7 820.00	41.2	60
6 000 ..	1 000.00	16.7	38	20 000 ..	8 420.00	42.1	64
6 400 ..	1 152.00	18.0	38	25 000 ..	11 620.00	46.5	64
6 800 ..	1 304.00	19.2	38	30 000 ..	14 820.00	49.4	64
7 200 ..	1 468.00	20.4	44	35 000 ..	18 020.00	51.5	64
7 600 ..	1 644.00	21.6	44	40 000 (c) ..	21 220.00	53.1	67

(a) Initial tax per \$1 for income in excess of the respective taxable income.

(b) In cases where personal taxable income exceeds \$1 040 but does not exceed \$1 062, the tax is not to exceed 66 per cent of the excess of the taxable income over \$1 040.

(c) Taxable income in excess of \$40 000 was taxed at 67 cents for each dollar of excess.

The next table shows the number of taxpayers, taxable income and income tax assessed during the year 1972-73 (income year 1971-72):

Tasmania, Income Tax: Income Year 1971-72—Individuals *a*)

Grade of actual income	Number of taxpayers			Net income	Taxable income	Net income tax assessed
	Males	Females	Persons			
\$				\$'000	\$'000	\$'000
417- 999 .. ..	4 078	9 075	13 153	9 358	8 696	274
1 000- 1 599 .. ..	4 812	9 624	14 436	18 890	16 874	1 028
1 600- 2 199 .. ..	6 419	10 113	16 532	31 527	27 865	2 363
2 200- 2 799 .. ..	8 194	10 106	18 300	45 783	39 840	4 331
2 800- 3 399 .. ..	12 758	6 034	18 792	58 299	48 771	6 131
3 400- 3 999 .. ..	16 141	3 121	19 262	71 252	57 208	8 035
4 000- 4 499 .. ..	12 524	1 878	14 402	61 101	48 149	7 443
4 500- 4 999 .. ..	10 598	1 389	11 987	56 760	44 328	7 409
5 000- 5 499 .. ..	7 701	876	8 577	44 885	35 137	6 339
5 500- 5 999 .. ..	5 657	630	6 287	36 063	28 291	5 453
6 000- 6 499 .. ..	4 336	471	4 807	29 984	23 450	4 787
6 500- 6 999 .. ..	3 380	340	3 720	25 072	19 718	4 248
7 000- 7 499 .. ..	2 438	258	2 696	19 507	15 256	3 433
7 500- 7 999 .. ..	1 835	186	2 021	15 639	12 372	2 927
8 000- 8 999 .. ..	2 412	246	2 658	22 459	17 735	4 404
9 000- 9 999 .. ..	1 414	125	1 539	14 572	11 610	3 095
10 000-14 999 .. ..	2 617	264	2 881	33 934	27 627	8 552
15 000-19 999 .. ..	594	53	647	11 011	9 367	3 629
20 000-29 999 .. ..	189	45	234	5 525	4 949	2 321
30 000 and over .. ..	74	26	100	3 948	3 615	2 036
Total .. ..	108 171	54 860	163 031	615 567	500 856	88 239

(a) For definitions see the following text.

The following definitions apply to the preceding table:

- (i) Actual income: Gross income *including exempt income* less expenses incurred in earning that income.
- (ii) Individuals: *Excluding companies*. Includes residents and non-residents assessed in Tasmania.
- (iii) Taxable income: Actual income *less* exempt income and *less* allowable deductions.

#### Companies (Income Tax)

The tax payable by companies during the financial year 1974-75 is based on income derived during the year ended 30 June 1974 or substituted accounting period. (In the case of tax on individuals, financial year and income year are usually synonymous.)

Rates of Income Tax Contribution for Companies: Income Years 1973-74 and 1974-75  
(Cents in the Dollar)

Type of company	Taxable income			
	1973-74		1974-75	
	First \$10 000	Balance	First \$10 000	Balance
Private .. ..	45.0	45.0	45.0	45.0
Public—				
Co-operative .. ..	42.5	47.5	42.5	45.0
Non-profit—				
Friendly society dispensary .. ..	37.5	37.5	37.5	37.5
Other .. ..	42.5	47.5	42.5	45.0
Other (including life insurance companies)	47.5	47.5	45.0	45.0

## State Taxation

In the section on Consolidated Revenue, taxes collected by the Tasmanian Government were shown in summarised form.

The next table gives full details of State taxation. It should be noted that certain taxes are reserved for special purposes. Examples are: (i) motor taxation—the 'motor tax' and 'public vehicle fees' components of this item (\$6 338 000 in 1973-74) are passed from Consolidated Revenue to the State Highways Trust Fund; and (ii) racing and gaming taxes—prior to 1970-71, part of the 'paid to special funds' item was passed to the racing clubs and the remainder spent on administration of racing. From 1970-71, all racing and gaming taxes paid to special funds were passed to the racing clubs.

State Taxation Collections (a)  
(\$'000)

Tax	1971-72	1972-73	1973-74
Deceased persons' estate duties .. ..	3 143	3 235	3 398
Entertainment tax .. ..	109	126	153
Stamp duties (excluding bookmakers' tickets)—			
Cheques .. ..	722	831	878
Bills of exchange and lading .. ..	1	..	..
Hire purchase and related agreements ..	641	711	890
Legal documents, etc. .. ..	1 520	2 237	3 286
Adhesive revenue stamps .. ..	418	408	376
Insurances .. ..	1 300	1 443	1 605
Marketable securities .. ..	115	169	133
Receipts duty .. ..	25	..	..
Land tax .. ..	2 799	2 961	3 055
Motor taxation—			
Paid to—Consolidated Revenue .. ..	8 058	8 637	9 537
Special funds .. ..	80	82	88
Tax paid to fire authorities (b) .. ..	988	1 135	1 263
Liquor tax and related licences—			
Tax .. ..	1 162	1 227	1 356
Publicans' licences, etc. .. ..	31	28	43
Wholesale licences .. ..	147	163	184
Registration of clubs .. ..	6	7	7
Racing and gaming taxes—			
Paid to—Consolidated Revenue .. ..	1 172	1 242	1 322
Adjustment (c) .. ..	—5	r +20	17
Special funds .. ..	477	522	551
Pay-roll tax .. ..	8 249	11 857	17 681
Hydro-Electric Commission statutory levy ..	804	1 251	1 362
Casino tax and licence fees .. ..	..	464	1 605
Tobacco tax and licence fees .. ..	..	559	1 247
Sundry licences—			
Animals and Birds Protection Act .. ..	3	..	..
Auctioneers and estate agents .. ..	5	6	6
Other (including Firearms Act) .. ..	5	7	11
Total .. ..	31 977	r 39 328	50 054

(a) Collections from all sources of taxation, including amounts paid to special funds.

(b) Paid by insurance companies direct to the Fire Brigades Commission and the Rural Fires Board.

(c) For different accounting periods.

## State Land Tax

The rates of land tax on urban land assessed on urban unimproved land values for the year 1973-74 are shown in the following table:

## Selected Rates of State Land Tax (a): Urban Land 1973-74

(\$)

Taxable value (b)				Tax payable	Taxable value				Tax payable
1 000	..	..	..	2	15 000	..	..	..	105
2 000	..	..	..	5	25 000	..	..	..	225
4 000	..	..	..	13	50 000	..	..	..	575
6 000	..	..	..	23	100 000	..	..	..	1 575
10 000	..	..	..	55	150 000	..	..	..	2 825

(a) Tax on unspecified values may be calculated by simple proportion, e.g. tax on \$5 750 equals \$13 plus  $1\,750/2\,000 \times (\$23 \text{ less } \$13)$  i.e. \$21.75. Land values exceeding \$150 000 were further taxed at 3 cents in the \$ on the excess.

(b) Properties having an unimproved value of less than \$1 000 are not subject to land tax.

The rates of land tax assessed on rural land values for the year 1973-74 are shown in the following table:

## Rates of State Land Tax: Rural Land 1973-74 (a)

Unimproved value (\$)	Taxable value	Tax rate
1-20 000 ..	Nil	Nil
20 001-25 000 ..	Unimproved value — $(\$20\,000 - \$4 \times \text{each dollar of excess over } \$20\,000)$	As for urban land with a 25 per cent rebate allowed
25 001 and over	Unimproved value	As for urban land with a 25 per cent rebate allowed

(a) Since 1 July 1971 a 25 per cent rebate on land tax payable has been allowed to rural land owners

## State Land Tax: Value of Taxable Properties and Tax Assessed

(\$'000)

Year			Gross unimproved value				Tax assessed			
			Urban	Rural	Compo-site (a)	Total	Urban	Rural	Compo-site (a)	Total
1969-70	..	..	243 488	32 979	24 344	300 811	2 097	269	306	2 672
1970-71	..	..	267 319	33 410	24 234	324 964	2 313	277	312	2 903
1971-72	..	..	274 210	30 349	26 698	331 257	2 319	(b) 224	(b) 309	2 852
1972-73	..	..	296 176	(c) 21 011	(c) 26 392	343 579	2 494	(c) 178	(c) 283	2 954
1973-74	..	..	310 740	20 860	29 724	361 324	2 522	177	335	3 035

(a) Properties made up of both urban and rural land.

(b) Decrease due to 25 per cent rebate applicable to rural land.

(c) Decrease due to an increase in the exemption level on rural land from \$10 000 to \$20 000.

## State Deceased Persons' Estate Duties

The legislation dealing with State deceased persons' estate duties is contained in Acts No. 42 of 1957 and No. 62 of 1962. The following table gives details of assessments for 1973-74:

**State Deceased Persons' Estate Duties**  
**Number of Estates, Net Value and Tax Assessed, 1973-74**

Grade of dutiable value	Estates		Net value as assessed	Total duty assessed (a)	Average duty	
	Examined	Taxable			Per estate examined	Per taxable estate
	no.	no.	\$'000	\$'000	\$	\$
1- 500 .. ..	94	8	10	..	3.1	36.9
501- 1 000 .. ..	47	8	36	1	17.8	104.8
1 001- 1 500 .. ..	63	17	78	1	18.9	70.0
1 501- 2 000 .. ..	46	14	83	2	35.1	115.2
2 001- 3 000 .. ..	92	35	215	6	69.4	182.5
3 001- 4 000 .. ..	114	25	391	8	67.7	308.6
4 001- 5 000 .. ..	136	90	599	13	97.6	147.5
5 001- 6 000 .. ..	86	58	463	13	154.4	229.0
6 001- 8 000 .. ..	164	114	1 127	38	229.6	330.3
8 001- 10 000 .. ..	162	125	1 422	63	388.5	503.5
10 001- 15 000 .. ..	263	195	3 115	166	629.4	848.9
15 001- 20 000 .. ..	160	159	2 599	180	1 123.7	1 130.7
20 001- 30 000 .. ..	166	165	3 645	295	1 777.9	1 788.7
30 001- 40 000 .. ..	85	85	2 619	249	2 926.3	2 926.3
40 001- 50 000 .. ..	61	61	2 212	227	3 724.8	3 724.8
50 001-100 000 .. ..	103	103	5 412	747	7 250.6	7 250.6
100 001 and over .. ..	73	73	6 724	1 588	21 758.0	21 758.0
Adjustments .. ..	..	..	..	- 12	..	..
<b>Total .. ..</b>	<b>1 915</b>	<b>1 335</b>	<b>30 750</b>	<b>3 584</b>	<b>..</b>	<b>..</b>

(a) Rates of duty and levels of exemption vary according to the class of beneficiary and the type of asset contained in the estate.

### Motor Taxation

The chief components of motor taxation are: (i) motor tax assessed on a power-weight formula; (ii) vehicle registration fees; (iii) drivers' and riders' licences; and (iv) other registration fees mainly related to public vehicles.

Details of motor taxation collections are shown in the following table:

**State Motor Taxation**  
**(\$'000)**

Particulars	1971-72	1972-73	1973-74
Motor tax .. ..	5 294	5 548	5 965
Public vehicle fees (a) .. ..	445	364	373
Stamp duty on—Third party insurance .. ..	328	342	358
Vehicle registration .. ..	436	507	609
Other traffic fees (b) .. ..	1 635	1 957	2 320
<b>Total .. ..</b>	<b>8 139</b>	<b>8 719</b>	<b>9 625</b>
Paid into Consolidated Revenue Fund .. ..	8 058	8 637	9 537
Retained by Transport Commission .. ..	80	82	88

(a) Includes public vehicle fees retained by Transport Commission.

(b) Includes registration fees, licences, number plate charges, transfer fees and learners' permits.

'Motor tax' plus most of the item 'public vehicle fees' shown in the above table is paid to the State Highways Trust Fund. (The amount paid over in 1973-74 was \$6 338 000.)



**Racing Taxation**

Under the *Racing and Gaming Act* 1952 and amending legislation to 1973, licensed bookmakers were required to pay a turnover commission of 2½ per cent on all bets made. Also, racing clubs were required to pay a tax on turnover at the rate of 5 per cent in respect of race meetings conducted on racecourses in a city area, and 2½ per cent in the case of other meetings. Amendments to the Act in 1971 provided that bookmakers pay two cents stamp duty on each telephone bet instead of issuing betting tickets and that this duty and betting turnover tax be paid into Consolidated Revenue.

As a result of amendments to the *Racing and Gaming Act* in 1974, the field of taxation on racing was altered significantly. The principal features of the change were: (i) the establishment of a Totalisator Agency Board (T.A.B.), which commenced operations during January 1975, to operate both on and off course totalisator betting (see article 'Off-Course Totalisator Betting' in the 1975 *Year Book*); (ii) the cessation of the off-course licensed bookmaker system with bookmakers confined to operating only at a racecourse while a race meeting is being conducted; and (iii) the discontinuance of telephone betting with bookmakers.

The new scale of racing taxation charges is: (i) licensed bookmakers turnover commission unchanged at 2½ per cent on all bets made; and (ii) from May 1974, racing clubs to pay a tax on turnover at the rate of 5 per cent irrespective of whether the course is situated inside or outside city areas; these amounts are paid through the Tasmanian Racing and Gaming Commission to Consolidated Revenue. In addition, commission deducted by the Totalisator Agency Board from the total amount wagered is 16 per cent with respect to doubles totalisator betting and 15 per cent with respect to other classes of totalisator betting. Distribution of this commission is as follows: (i) in each case 10 per cent of the total amount wagered is paid to the Board's revenue account and 5 per cent to Consolidated Revenue through the Tasmanian Racing and Gaming Commission; and (ii) in the case of commission on doubles betting, one per cent of the total amount wagered is paid to the Racing Trust. The Board is also required periodically to transfer its net profit to the Racing Trust.

Details of racing taxation collections and distribution are shown in the next table:

**State Racing Taxation: Collection and Distribution**  
( '\$000 )

Particulars	1971-72	1972-73	1973-74
<b>RACING TAXATION RECEIPTS</b>			
Totalisator tax .. .. .	69	70	77
Bookmakers' commission and licences ..	1 343	r 1 476	1 574
Stamp duty on bookmakers' tickets ..	232	238	240
Total .. .. .	1 644	r 1 784	1 891
<b>DISTRIBUTION OF RACING TAXATION RECEIPTS</b>			
Paid into Consolidated Revenue Fund ..	1 172	1 242	1 322
Adjustment (a) .. .. .	- 5	r + 20	17
Commission payable to racing clubs ..	477	522	551
Total .. .. .	1 644	r 1 784	1 891

(a) An adjustment item is necessary to reconcile items referring to different accounting periods.

The turnovers on which taxes were levied are as follows:

**Betting: Bookmakers' and Totalisator Turnover**  
(**\$'000**)

Turnover	1971-72	1972-73	1973-74
Licensed bookmakers .. .. .	52 871	58 220	62 008
Totalisator .. .. .	1 453	1 493	1 651
Total betting turnover .. .. .	54 323	59 713	63 659

### *State Taxation on Lotteries*

From 1942 (when the Australian Government became the sole collector of income tax), lotteries conducted from Hobart by Tattersalls (George Adams Estate) were Tasmania's chief source of revenue through State taxation. On 14 July 1954, the promoters transferred their operations to Victoria. A new organisation—Tasmanian Lotteries—was granted a licence and operated until 30 September 1961, when the proprietor surrendered the licence. No operator is now licensed.

In September 1960, the *Racing and Gaming Act* 1952 was amended to permit agreements with other states for the sale of their lottery tickets in Tasmania. Under an agreement with the Victorian Government, Tattersalls were allowed to sell tickets through accredited Tasmanian representatives; the Victorian Government was to pay quarterly to the Tasmanian Government 15½ per cent of the value of subscriptions made as a result of this concession.

For the purpose of public finance statistics, these amounts are classified not as 'taxation' but as 'payments from other states'.

The following table shows the payments made under the interstate agreement since 1966-67:

**Payments to Tasmanian Government Based on Sale of Tattersalls Lottery Tickets**  
(**\$**)

Year	Amount	Year	Amount
1966-67 .. .. .	140 995	1970-71 .. .. .	(a) 196 038
1967-68 .. .. .	138 372	1971-72 .. .. .	179 343
1968-69 .. .. .	141 624	1972-73 .. .. .	200 059
1969-70 .. .. .	116 196	1973-74 .. .. .	227 770

(a) Includes \$33 858 due for the year 1969-70 but not received until early 1970-71.

### *Fees and Licences under the Licensing Act*

The State raises revenue from hotels, clubs, restaurants and liquor wholesalers by: (i) licensing; and (ii) imposing a levy related to turnover. Originally a liquor tax was charged on liquor purchases by hotels, etc. and on wholesalers' direct sales to the public, the year for calculating taxable values and the year of collection being the same. During 1965-66, the *Licensing Act* 1932 was amended to substitute 'percentage fees' based on similar values except that they were those calculated for the year *preceding* collection.

**Fees and Related Licences Collected Under the Licensing Act  
(\$'000)**

Tax or licence	1971-72	1972-73	1973-74
Percentage fees (a) .. .. .	1 162	1 227	1 356
Publicans' and other licences under the Licensing Act .. .. .	31	28	43
Wholesale licences .. .. .	147	163	184
Registration of clubs .. .. .	6	7	7
<b>Total .. .. .</b>	<b>1 346</b>	<b>1 426</b>	<b>1 590</b>

(a) Based on liquor purchases by hotels and direct sales by wholesalers to the public.

**Casino Tax and Licence Fees**

The rate of casino tax and the licence fee were established by an agreement made in September 1968 between the State Treasurer, Federal Hotels Ltd and Australian National Hotels Ltd. The agreement was ratified by the *Wrest Point Casino Licence and Development Act 1968*. The casino tax is calculated according to a graduated scale based upon monthly gross profit and is payable monthly. Initially rates ranged from five per cent of gross profit where that profit was less than \$25 000 for the month to 30 per cent where the gross profit exceeded \$125 000. The licence fee was fixed at \$2 500 per month. Early in 1975 the State Government received a submission from Australian National Hotels Ltd for changes in the tax scale.

During May 1975, the State Government offered, subject to confirmation by Parliament, to vary the taxation agreement in the following manner:

- (i) reduction of the maximum rate of tax to 25 per cent for the 1975-76 year only; and
- (ii) in future, casino taxation rates be set by Parliament.

Details of casino taxation collections are shown in the following table:

**Casino Tax and Licence Fees  
(\$'000)**

Particulars	1972-73	1973-74
Casino tax .. .. .	451	1 575
Licence fees .. .. .	13	30
<b>Total .. .. .</b>	<b>(a) 464</b>	<b>1 605</b>

(a) The Wrest Point Casino commenced business in February 1973.

**Tobacco Tax and Licence Fees**

The *Tobacco Act 1972* imposed a tobacco consumption tax and licence fee to become operative from 1 January 1973. (For details of the High Court challenge and decision see earlier section of this chapter 'State Revenue Raising Difficulties'.) Total revenue from the tobacco tax and licence fees for 1973-74 was \$1 246 677 comprising \$1 017 251 from the consumption tax and \$229 426 from licence fees.

# Chapter 6

## DEMOGRAPHY

### POPULATION

#### Introduction

##### *Census of 30 June 1971*

Detailed analysis of the population according to its principal characteristics as at the Census of 30 June 1971 is included in this chapter.

##### *Inclusion of Aborigines in Population Statistics*

Section 127 of the Australian Constitution required the exclusion of Aborigines from Australian Government conducted population censuses from 1911 to 1966. As this section was repealed after the 1967 referendum, total population figures have been adjusted after 1961 to include full-blood Aborigines. The effect in this State is very slight.

#### Historical

In 1803 Lieutenant John Bowen's expedition of 49 persons made the first white settlement at Risdon Cove; at 30 June 1974, Tasmania's estimated population was 400 400 persons.

*The Statistical Tables, Tasmania 1804 to 1823* show the first population record in 1816 when the white inhabitants numbered 1 461, and analysed as 1 032 free settlers, 409 convicts and 20 children of convicts. From the year 1816, there exists a continuous annual record of Tasmania's population.

##### *Source of Population Figures*

There are two principal methods by which population figures are obtained: (i) by census enumeration; and (ii) intercensal estimates based on the application of vital and migration statistics to census data. The second method involves taking account of *natural increase* (excess of births over deaths); and *net migration* (excess of arrivals over departures) and applying these net figures to information obtained from an earlier census, the result being termed an intercensal estimate. (*Net migration* may be ascertained by two methods: taking account of *all* arrivals and departures; or only of arrivals and departures related to permanent change of place of residence. The former method was used for all estimates up to 30 June 1961, the latter method for later series. In relation to this change, see later section headed 'Changed Method of Estimating Population'.)

Censuses were conducted by the State in 1841, 1847, 1851, 1857, 1861, 1870, 1881, 1891 and 1901; the Commonwealth Statistician became responsible for censuses with the establishment of the Commonwealth Bureau of Census and Statistics (now the Australian Bureau of Statistics) and conducted them in 1911, 1921, 1933, 1947, 1954, 1961, 1966 and 1971.

## Population from 1820

The table that follows is based on the traditional historical series and has been compiled to show the population at the end of each decade from 1820, the natural increase and the average annual growth in total population for each decade.

Historical Summary of Tasmanian Population in Decades

Year	Estimated population (a)			Average annual increase for decade (b)	
	Males	Females	Persons	In total population	From natural increase (c)
1820 (d)	4 057	1 343	5 400	..	..
1830 (d)	18 108	6 171	24 279	1 888	..
1840 (d)	32 040	13 959	45 999	2 172	106
1850 ..	44 229	24 641	68 870	2 287	656
1860 ..	49 653	40 168	89 821	2 095	1 214
1870 ..	53 517	47 369	100 886	1 107	1 622
1880 ..	60 568	54 222	114 790	1 390	1 542
1890 ..	76 453	68 334	144 787	3 000	2 496
1900 ..	89 763	83 137	172 900	2 811	2 776
1910 ..	97 026	92 781	189 807	1 691	3 322
1920 ..	106 236	103 189	209 425	1 962	3 649
1930 ..	111 148	108 835	219 983	1 056	3 127
1940 ..	121 911	118 280	240 191	2 021	2 438
1950 ..	140 339	135 563	275 902	3 571	3 768
1960 ..	174 379	169 531	343 910	6 801	5 523
1970 ..	195 280	192 440	387 720	4 381	5 116
1974 ..	200 429	200 002	400 431	(e) 3 178	(e) 4 379

(a) Up to 1900, at 31 December; from 1910, at 30 June.

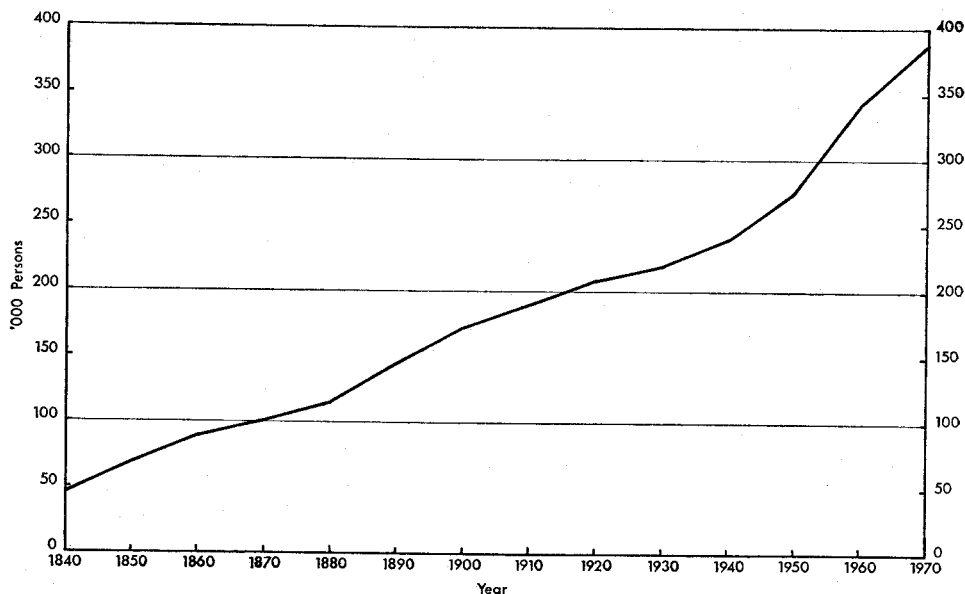
(b) Decade ending in year shown.

(c) Excess of births over deaths in calendar years.

(d) Imperial military establishment of about 1 000 troops included; excluded after 1842.

(e) Average calculated for four years of present decade.

Tasmanian Population in Decades (at 30 June), 1840 to 1970



### Pattern of Net Migration

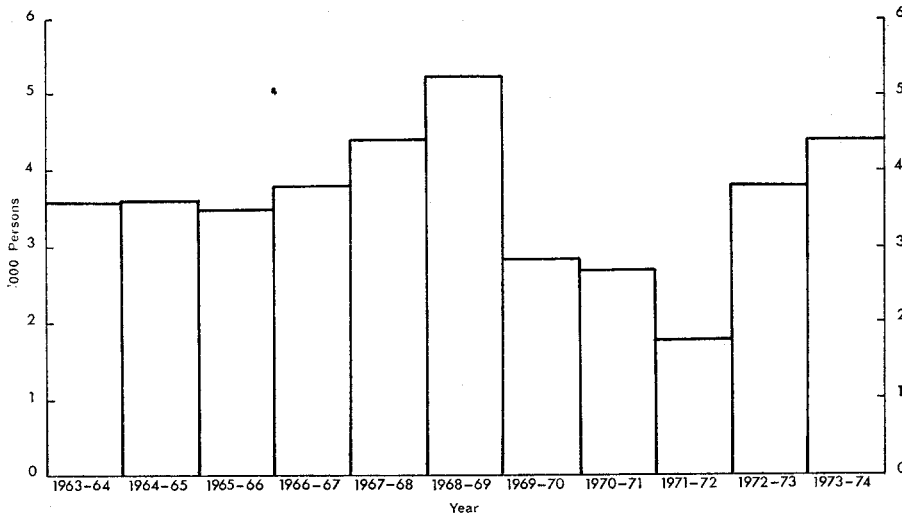
From the first settlement until 1850, the rapid growth in population was partly due to the British Government's convict transportation policy. After the cessation of transportation in 1853, the immigration rate slowed and natural increase became the more important component of population growth.

By comparing the last two columns in the previous table, it is possible to make an assumption as to whether net migration (excess of arrivals over departures) tended to be positive or negative in any decade.

In the two decades ended 1870 and 1880, for example, natural increase was becoming a more significant factor but the growth of population was checked by negative net migration. Important mining discoveries (e.g. Mt Bischoff, Zeehan and Mt Lyell) brought prosperity to the State, and the two decades ended 1890 and 1900 were characterised by positive net migration.

The main characteristic of the five decades up to 1950 was a persistent loss of population due to negative net migration, the decade most affected ending in 1930. This trend of net migration loss persisted till the end of World War II (1945). The Australian Government's post-war immigration policy and the increasing industrialisation of the State combined to reverse the adverse trend of the previous half-century and the decade ending 1960 was characterised by positive net migration. However, in the decade ending 1970, and in the present (incomplete) decade, some loss of population by negative net migration must be inferred.

Annual Population Increase: Tasmania, 1963-64 to 1973-74



The next table shows the annual increases in population for the most recent 10-year period:

Annual Increase in Population from 1964

Year ended 30 June				Persons	Year ended 30 June				Persons
1965	..	..	..	3 594	1970	..	..	..	2 827
1966	..	..	..	3 531	1971	..	..	..	2 693
1967	..	..	..	3 808	1972	..	..	..	1 762
1968	..	..	..	4 405	1973	..	..	..	3 824
1969	..	..	..	5 244	1974	..	..	..	p4 400

### Census Populations From 1841

Population growth varied widely during the nineteenth century. From 1841 to 1847 the annual population increase averaged 4.70 per cent, largely due to the transportation system. Following self-government, the Colony entered a period of depression and the growth rate fell until the development of mining at the end of the century. The lowest growth rates in this century were associated with the period 1921-1947; and the highest rate with the period 1947-1954 when the State benefited from an influx of European migrants.

Population and Masculinity at Each Census from 1841

Census date (a)	Population			Average annual percentage rate of increase (b)	Masculinity (c)
	Males	Females	Persons		
31 Dec. 1841 .. ..	34 469	16 981	51 450	..	220.99
31 Dec. 1847 .. ..	45 000	22 313	67 313	4.70	201.68
1 Mar. 1851 .. ..	44 648	25 482	70 130	1.07	175.21
31 Mar. 1857 .. ..	46 606	34 886	81 492	2.53	133.60
7 Apr. 1861 .. ..	49 593	40 384	89 977	2.51	122.80
7 Feb. 1870 .. ..	52 853	46 475	99 328	1.11	113.72
3 Apr. 1881 .. ..	61 162	54 543	115 705	1.40	112.14
5 Apr. 1891 .. ..	77 560	69 107	146 667	2.40	112.23
31 Mar. 1901 .. ..	89 624	82 851	172 475	1.64	108.17
3 Apr. 1911 .. ..	97 591	93 620	191 211	1.04	104.24
4 Apr. 1921 .. ..	107 743	106 037	213 780	1.12	101.61
30 June 1933 .. ..	115 097	112 502	227 599	0.52	102.31
30 June 1947 .. ..	129 244	127 834	257 078	0.87	101.10
30 June 1954 .. ..	157 129	151 623	308 752	2.65	103.63
30 June 1961 .. ..	177 628	172 712	350 340	1.82	102.85
30 June 1966 .. ..	187 391	184 045	371 436	1.18	101.82
30 June 1971 .. ..	196 442	193 971	390 413	1.00	101.27

(a) Imperial military establishments included until 1870, when British troops were withdrawn.

(b) Interdecadal increase in total population as compound rate of growth per cent.

(c) Number of males per 100 females.

### Comparison With Other States

The following table compares the Tasmanian population at censuses from 1901 with that of other states and territories (full-blood Aborigines are included from 1966):

Australia: Census Populations of States and Territories (a)  
(<sup>000</sup> Persons)

State or territory	1901	1933	1947	1954	1961	1966 (b)	1971 (b)
N.S.W. .. ..	1 355	2 601	2 985	3 424	3 917	4 238	4 601
Victoria .. ..	1 201	1 820	2 055	2 452	2 930	3 220	3 502
Queensland .. ..	498	947	1 106	1 318	1 519	1 674	1 827
S.A. .. ..	359	581	646	797	969	1 095	1 174
W.A. .. ..	184	439	502	640	737	848	1 030
Tasmania .. ..	172	228	257	309	350	371	390
N.T. .. ..	5	5	11	17	27	57	86
A.C.T. (c) .. ..	..	9	17	30	59	96	144
Australia .. ..	3 774	6 630	7 579	8 987	10 508	11 599	12 756

(a) Censuses of 1911 and 1921 are not shown.

(b) Includes full-blood Aborigines.

(c) Part of N.S.W. prior to 1911.



The next table shows the average annual rates of population increase:

**Australia: Average Annual Rate of Increase of Population During Intercensal Periods (a)**  
(Per Cent)

State or territory	1921-33	1933-47	1947-54	1954-61	1961-66	1966-71
N.S.W. .. .. .	1.76	0.99	1.98	1.94	1.51	1.66
Victoria .. .. .	1.42	0.87	2.56	2.58	1.80	1.69
Queensland .. .. .	1.86	1.11	2.53	2.04	1.86	1.77
S.A. .. .. .	1.31	0.76	3.05	2.83	2.29	1.40
W.A. .. .. .	2.29	0.97	3.51	2.03	2.63	3.97
<b>Tasmania</b> .. .. .	<b>0.52</b>	<b>0.87</b>	<b>2.65</b>	<b>1.82</b>	<b>1.18</b>	<b>1.00</b>
N.T. .. .. .	1.87	5.93	6.12	7.37	10.41	8.86
A.C.T... .. .	10.71	4.65	8.70	9.93	7.75	8.45
Australia .. .. .	1.63	0.96	2.46	2.26	1.88	1.92

a) Full-blood Aboriginals excluded for 1961-66 and earlier periods but included for 1966-71.

### Intercensal Adjustment

Earlier, mention was made of the method of calculating intercensal estimates of population by taking account of recorded natural increase and recorded net migration. The following two tables show these factors in successive intercensal periods from 1921; 'arrivals' and 'departures' in the first table refer to both short-term and long-term movements.

**Analysis of Intercensal Increase in Tasmanian Population**  
(i) Recorded Natural Increase and Recorded Net Migration

Intercensal period	Births	Deaths	Natural increase	Arrivals	Departures	Net migration
4.4.1921 to 30.6.1933 (a) ..	61 955	25 174	36 781	507 209	535 780	-28 571
30.6.1933 to 30.6.1947 ..	73 130	34 767	38 363	482 577	493 305	-10 728
30.6.1947 to 30.6.1954 ..	51 615	17 557	34 058	870 768	845 009	+25 759
30.6.1954 to 30.6.1961 ..	59 282	18 631	40 651	1 070 297	1 065 254	+ 5 043
30.6.1961 to 30.6.1966 ..	41 276	14 786	26 490	1 071 892	1 077 942	- 6 050
30.6.1966 to 30.6.1971 ..	40 474	16 297	24 177	1 467 075	1 471 663	- 4 588

(a) Numbers recorded from the March quarter of 1921.

(ii) Census Population, Intercensal Records and Intercensal Adjustment

Census date	Population	Numbers recorded since previous census		Intercensal adjustment (a)
		Natural increase	Net migration	
4.4.1921 ..	213 780	36 448	-10 265	- 3 614
30.6.1933 ..	227 599	36 781	-28 571	+ 5 609
30.6.1947 ..	257 078	38 363	-10 728	+ 1 844
30.6.1954 ..	308 752	34 058	+25 759	- 8 143
30.6.1961 ..	350 340	40 651	+ 5 043	- 4 106
30.6.1966 ..	371 436	26 490	- 6 050	+ 656
30.6.1971 ..	390 413	24 177	- 4 588	+ 612

(a) For definition, see following section; adjustment is to reconcile increase as disclosed by census counts with net increase recorded in second and third columns.

In general, two population estimates are made for any specific date: (i) *original* estimates for dates subsequent to a census and made before another census is taken; and (ii) *revised* estimates for each newly-completed intercensal period to adjust for the difference between the new census result and the comparable estimate. Thus, all original estimates of population for the intercensal periods from 1911 to 1971 have been revised to reconcile with the results of successive censuses from 1921 to 1971 and can be regarded as final.

### Population Estimates, Intercensal Years

The following are estimates of Tasmanian population at 30 June and 31 December:

Estimated Population, 30 June and 31 December

Year	At 30 June			At 31 December		
	Males	Females	Persons	Males	Females	Persons
1957 .. ..	165 940	160 190	326 130	172 186	166 621	338 807
1958 .. ..	169 123	163 943	333 066	174 465	169 433	343 898
1959 .. ..	172 097	167 279	339 376	178 109	173 240	351 349
1960 (a) ..	174 379	169 531	343 910	180 511	175 458	355 969
1961 (a) (b) ..	177 628	172 712	350 340	178 864	174 394	353 258
1962 .. ..	179 966	175 702	355 668	181 085	177 002	358 087
1963 .. ..	182 439	178 288	360 727	183 330	179 469	362 799
1964 .. ..	184 074	180 237	364 311	185 051	181 457	366 508
1965 .. ..	185 789	182 116	367 905	186 483	183 125	369 608
1966 (b) ..	187 391	184 045	371 436	188 180	185 129	373 309
1967 .. ..	189 195	186 049	375 244	190 369	187 472	377 841
1968 .. ..	191 288	188 361	379 649	192 871	190 184	383 055
1969 .. ..	193 888	191 005	384 893	194 788	192 210	386 998
1970 .. ..	195 280	192 440	387 720	196 363	193 890	390 253
1971 (b) ..	196 442	193 971	390 413	197 444	195 380	392 824
1972 .. ..	197 201	194 974	392 175	198 461	197 091	395 552
1973 .. ..	198 756	197 243	395 999	199 849	199 244	399 093
1974 .. ..	200 429	200 002	400 431			404 966

(a) Break in series; see following paragraphs.

(b) Figures at 30 June as recorded at census.

### 'De Facto' and 'De Jure'

Australian censuses allot persons to the state where they happen to be at the census date (*de facto* basis) and not to the state where they normally reside (*de jure* basis); net migration, as defined and measured prior to 1961, was also on a *de facto* basis. Thus the Tasmanian December estimates in the previous table for dates prior to 1961 are consistently higher than those for the preceding June by anything from 10 000 to 15 000 persons, due to the seasonal tourist influx.

### Changed Method of Estimating Population

Until the Census of 1966, the quarterly intercensal population of each state had been estimated using three components: (i) the previous census population; (ii) accumulated natural increase; and (iii) accumulated net migration. In this calculation, net migration was the total of all arrivals *less* all departures, recorded for shipping and aircraft (Tasmania) and for shipping, aircraft, rail and omnibus movements (other states); it therefore included overseas and interstate travel irrespective of purpose.

The changed method of estimation, introduced after the 1966 Census, still relies on the same three components but defines and measures net migration in a different way, so that holiday, business or other similar short-term movements between states are eliminated. *Intercensal estimates for the period 1961 to 1971 have been revised in accordance with the new method, and incorporate the changed concept of net migration.*

In the changed method, population of each state is estimated by adding to the previous census population the natural increase and the allocation of the net gain by overseas migration for that state; gains or losses that result from movements between states are also taken into account, in so far as they are recorded as transfers of residence under child endowment procedures or Australian Government electoral procedures, supplemented by the results of any sample surveys. Revised estimates subsequent to the 1961 Census omit the effect of holiday, business or other similar short-term movements between the states.

### Mean Population

Mean populations are calculated for twelve-month periods to provide a satisfactory average basis for calculations requiring allowance for the continuous change in population figures during such periods. From 1901 onwards, the mean population for any year has been calculated by the formula:

$$\text{Mean population} = \frac{a + 4b + 2c + 4d + e}{12}$$

where  $a$  is the population at the end of the quarter immediately preceding the year and  $b$ ,  $c$ ,  $d$  and  $e$  are the populations at the end of the quarters making up the year under consideration (e.g. in the case of a mean population for the calendar year 1974, the populations in the formula represented by  $a$ ,  $b$ ,  $c$ ,  $d$  and  $e$  are those at the following dates: 31.12.1973, 31.3.1974, 30.6.1974, 30.9.1974 and 31.12.1974).

The following table shows Tasmania's mean population on two bases: (i) for financial years; and (ii) for calendar years.

Estimated Mean Population, Financial and Calendar Years

Year	Year ended—		Year	Year ended—	
	30 June	31 December		30 June	31 December
1965 .. .. .	366 366	367 970	1970 .. .. .	386 665	388 180
1966 .. .. .	369 600	371 483	1971 .. .. .	389 739	391 242
1967 .. .. .	373 321	375 397	1972 .. .. .	392 399	393 183
1968 .. .. .	377 582	379 916	1973 .. .. .	394 928	396 889
1969 .. .. .	382 710	385 079	1974 .. .. .	398 953	401 580

### Arrivals and Departures

Earlier in this chapter, reference was made to net migration as one factor determining the growth of the State population. Net migration, on a *de facto* basis for any period, is the difference between arrivals and departures, such movements being reported by the shipping companies and airlines. 'Arrivals' in the following table applies to all persons arriving in Tasmania from overseas or from other Australian states; it includes Tasmanians returning home. Similarly, 'departures'

applies to all persons leaving Tasmania for overseas or for other Australian states; it includes visitors returning home from Tasmania. The table below shows annual arrivals and departures and also quarterly arrivals and departures for recent years, but the intercensal adjustments referred to in an earlier section have not been applied to the figures.

Recorded Arrivals and Departures: Tasmania (a)

Year	Arrivals	Departures	Quarter ending	Arrivals	Departures
1930 .. ..	40 291	41 110	1970—March ..	93 497	100 102
1935 .. ..	42 470	42 912	June ..	72 885	79 630
1940 .. ..	51 672	53 644	September ..	67 347	68 957
1945 .. ..	n.a.	n.a.	December ..	87 138	74 760
1950 .. ..	127 709	122 333	1971—March ..	94 843	100 923
1955 .. ..	137 834	137 144	June ..	81 969	87 968
1960 .. ..	182 537	183 513	September ..	68 683	70 921
1962 .. ..	185 268	186 023	December ..	94 668	80 830
1963 .. ..	198 443	199 918	1972—March ..	104 678	113 697
1964 .. ..	219 930	223 380	June ..	76 164	81 387
1965 .. ..	248 964	249 617	September ..	71 955	71 769
1966 .. ..	257 463	256 068	December ..	103 892	88 659
1967 .. ..	270 934	271 812	1973—March ..	118 177	127 753
1968 .. ..	276 798	276 856	June ..	104 384	111 358
1969 .. ..	296 186	297 069	September ..	101 187	102 621
1970 .. ..	320 867	323 449	December ..	127 046	107 033
1971 .. ..	340 163	340 642	1974—March ..	140 129	151 788
1972 .. ..	356 689	355 512	June ..	121 932	128 202
1973 .. ..	450 794	448 765	September ..	107 755	105 861
1974 .. ..	502 813	502 649	December ..	132 997	116 798

(a) Arrivals and departures on a *de facto* basis.

It should be noted that the data shown in the preceding table are compiled only on the basis of individual journeys. There is no classification of the arrival or departure figures into 'Tasmanians' and 'others' nor is any information obtained about the type of movement involved—i.e. whether the arrival or departure is of a permanent, long-term or short-term nature. It therefore follows that while increased tourist movements have made a principal contribution to the growth in the arrival and departure figures, as shown in the table, it is not possible to isolate tourist movements from other movements to and from Tasmania.

If annual arrivals and departures are added, the result may conveniently be termed 'annual movements', and a comparison of 'annual movements' over the years gives some indication of the degree to which tourism and other travel have affected the State. Thus in 1901, the year of Federation, annual arrivals and departures together totalled 51 000; in 1913, 91 800; in 1931, 58 500; in 1939, 120 200; and in 1974, over 1 000 000. The increase in 'annual movements' since World War II is largely attributable to the growing use of air travel and roll-on roll-off ferries. Another factor has been industrial legislation providing for paid holidays and for longer holidays; this has not only increased the tourist inflow but also has resulted in more Tasmanians taking holidays in other states.

The quarterly figures show a marked seasonal pattern with arrivals at their maximum in the spring and summer quarters (those ending December and March). Net migration figures on a *de facto* basis also show a seasonal pattern with substantial deviations from the quarterly average, approximating *plus* 11 000 to 13 000 persons in the December quarter; they also reflect the tourist outflow in the March quarter.

## Population in Local Government Areas

The next table shows the population in cities, municipalities and statistical divisions at successive censuses and also gives post-censal estimates:

Population in Local Government Areas and Statistical Divisions at 30 June

Local government area (statistical division and sub-division in bold type)	Census			Estimated	
	1961	1966	1971	1973	1974
Hobart (H) ..	54 021	53 257	52 426	52 500	52 550
Glenorchy (H) ..	35 682	39 053	42 651	43 500	43 960
Clarence .. (H) ..	23 140	30 236	37 104	39 340	40 820
Brighton (H) (S) ..	2 115	2 207	2 333	2 540	3 020
Kingborough (H) (S) ..	10 025	10 322	10 815	11 680	12 380
New Norfolk (H) (S) ..	10 217	10 315	10 613	10 610	10 650
Sorell (H) (S) ..	2 878	3 309	3 636	3 820	3 910
Bothwell (S) ..	1 288	1 008	813	750	730
Bruny (S) ..	504	400	311	290	280
Esperance (S) ..	3 436	3 740	3 508	3 320	3 160
Glamorgan (S) ..	1 128	1 125	1 120	1 180	1 180
Green Ponds (S) ..	969	880	881	830	830
Hamilton (S) ..	4 178	4 329	4 060	4 040	4 020
Huon (S) ..	5 460	5 264	4 756	4 560	4 300
Oatlands (S) ..	2 691	2 501	2 132	2 010	1 960
Port Cygnet (S) ..	2 754	2 550	2 070	1 890	1 810
Richmond (S) ..	1 673	1 658	1 579	1 560	1 560
Spring Bay (S) ..	1 155	1 205	1 413	1 620	1 720
Tasman (S) ..	1 108	1 126	1 035	1 000	1 000
<b>HOBERT</b> ..	164 422	141 311	153 216	157 870	161 320
<b>SOUTHERN</b> ..		33 174	30 040	29 170	28 520
Launceston ..	38 118	37 217	35 107	34 330	34 130
Beaconsfield ..	8 550	9 983	10 970	11 530	11 730
Deloraine ..	5 574	5 205	4 807	4 760	4 720
Evandale ..	1 608	1 554	1 462	1 450	1 430
George Town ..	3 677	5 101	6 029	6 160	6 330
Lilydale ..	6 744	7 841	8 308	8 600	8 650
Longford ..	6 762	5 354	5 145	5 000	4 900
St Leonards ..	11 032	13 660	16 093	16 760	17 140
Westbury ..	4 581	4 964	4 863	4 900	4 900
<b>Tamar</b> ..	86 646	90 879	92 784	93 490	93 930
Campbell Town ..	1 893	1 753	1 641	1 580	1 570
Fingal ..	4 475	3 791	3 441	3 270	3 210
Flinders ..	1 407	1 234	968	1 000	960
Portland ..	1 274	1 391	1 497	1 500	1 510
Ringarooma ..	3 056	2 866	2 474	2 430	2 360
Ross ..	672	617	541	520	500
Scottsdale ..	3 417	3 628	3 615	3 580	3 580
<b>North Eastern</b> ..	16 194	15 280	14 177	13 880	13 690
<b>NORTHERN</b> ..	102 840	106 159	106 961	107 370	107 620
Burnie ..	16 745	18 611	19 954	20 300	20 480
Circular Head ..	7 733	7 884	7 981	8 000	8 040
Devonport ..	14 276	16 758	19 802	20 930	21 480
Kentish ..	4 167	5 614	5 325	4 340	4 320
King Island ..	2 784	2 462	2 793	2 850	2 910
Latrobe ..	4 367	4 807	5 115	5 150	5 200
Penguin ..	4 673	4 677	4 791	4 860	4 910
Ulverstone ..	9 365	10 150	11 052	11 350	11 560
Wynyard ..	8 835	9 564	10 600	10 880	11 020
<b>North Western</b> ..	72 945	80 527	87 413	88 660	89 920

Population in Local Government Areas and Statistical Divisions at 30 June—*continued*

Local government area (statistical division and sub-division in bold type)	Census			Estimated	
	1961	1966	1971	1973	1974
Gormanston .. .. .	507	540	489	400	380
Queenstown .. .. .	4 624	4 393	5 123	5 100	5 130
Strahan .. .. .	565	470	447	440	420
Waratah .. .. .	367	698	1 940	2 010	2 020
Zeehan .. .. .	3 191	3 489	4 369	4 570	4 650
<b>Western .. .. .</b>	<b>9 254</b>	<b>9 590</b>	<b>12 368</b>	<b>12 520</b>	<b>12 600</b>
<b>MERSEY-LYELL ..</b>	<b>82 199</b>	<b>90 117</b>	<b>99 781</b>	<b>101 180</b>	<b>102 520</b>
Migratory .. .. .	879	675	415	410	420
<b>TASMANIA ..</b>	<b>350 340</b>	<b>371 436</b>	<b>390 413</b>	<b>396 000</b>	<b>400 400</b>

## Distinction Between Urban and Rural

After the Censuses of 1954 and 1961, the Commonwealth Statistician published a population classification using the terms 'metropolitan', 'urban' and 'rural'. Delineation of the urban boundaries was subjective and the methods used were not completely comparable between states.

In order to develop an objective definition of 'urban' and 'rural' areas, Dr G. J. R. Linge of the Australian National University was commissioned by the Commonwealth Statistician to make a report.

At the 27th Conference of Statisticians in 1965, the following resolutions relating to the delimitation of urban areas based substantially on Dr Linge's report were passed:

- (i) (a) That the concept of an *inner* and *outer* boundary around each of the state capitals and other cities with an urban population of at least 75 000 and a regional population of at least 100 000 be adopted; and
- (b) that the inner boundary be drawn to delimit the extent of urban development at each Census and it should, therefore be a moving boundary to be adjusted after each Census, except that any state may extend the inner boundary during intercensal years to encompass significant and well-defined peripheral population growth; and
- (c) that the outer boundary be designed to contain the anticipated urban development of a city for a period of at least 20 to 30 years.
- (ii) (a) That an urban boundary be defined as soon as possible for all other settlements with a population of 1 000 or more; and
- (b) that state, statistical division, local government area, and other boundaries be ignored in delimiting these urban areas.
- (iii) That urban boundaries be defined so as to include all contiguous census collector's districts which have a population density of 200 or more per square kilometre (subject to certain special rules).

*Effect of Change in Tasmania*

The resolution previously quoted as (i) affected only one centre in Tasmania since only the Hobart area has 'an urban population of at least 75 000 persons and a regional population of at least 100 000'. Resolutions (ii) and (iii) affected all other cities and towns, including Launceston. The concept of ringing the capital city with two statistical boundaries, an inner and an outer, was discussed in depth in the 1968 and 1969 *Year Books*. The following section broadly outlines the current situation in Tasmania. (See Appendix A on further change from 1976.)

**Urban and Rural Population of Tasmania**

The localities classified as urban had to have populations exceeding 1 000 persons and a population density of 200 or more per square kilometre but special rules applied to holiday resorts where housing density was taken into account. The urban-rural dissection for Tasmania follows:

**Population in Local Government Areas Classified as Urban and Rural at Census, 30 June 1971**

Local government area (statistical division and sub-division in bold type)			Total	Rural	Urban Hobart	Urban Launceston	Other urban (a)
Hobart (H) .. ..	..	..	52 426	685	51 741	..	..
Glenorchy (H) .. ..	..	..	42 651	985	41 666	..	..
Clarence (H) .. ..	..	..	37 104	2 112	33 663	..	1 329
Brighton (H) (S) ..	..	..	2 333	2 333	..	..	..
Kingborough (H) (S) ..	..	..	10 815	4 269	2 858	..	3 688
New Norfolk (H) (S) ..	..	..	10 613	3 774	..	..	6 839
Sorell .. (H) (S) ..	..	..	3 636	1 607	..	..	2 029
Bothwell (S) .. ..	..	..	813	813	..	..	..
Bruny (S) .. ..	..	..	311	311	..	..	..
Esperance (S) .. ..	..	..	3 508	3 508	..	..	..
Glamorgan (S) .. ..	..	..	1 120	1 120	..	..	..
Green Ponds (S) .. ..	..	..	881	881	..	..	..
Hamilton (S) .. ..	..	..	4 060	r 2 790	..	..	r 1 270
Huon (S) .. ..	..	..	4 756	4 756	..	..	..
Oatlands (S) .. ..	..	..	2 132	2 132	..	..	..
Port Cygnet (S) .. ..	..	..	2 070	2 070	..	..	..
Richmond (S) .. ..	..	..	1 579	1 579	..	..	..
Spring Bay (S) .. ..	..	..	1 413	r 1 101	..	..	r 312
Tasman (S) .. ..	..	..	1 035	1 035	..	..	..
<b>HOBART</b> .. ..	..	..	<b>153 216</b>	<b>9 403</b>	<b>129 928</b>	<b>..</b>	<b>13 885</b>
<b>SOUTHERN</b> .. ..	..	..	<b>30 040</b>	<b>r 28 458</b>	<b>..</b>	<b>..</b>	<b>r 1 582</b>
Launceston .. ..	..	..	35 107	..	..	35 107	..
Beaconsfield .. ..	..	..	10 970	5 312	..	4 789	869
Deloraine .. ..	..	..	4 807	2 995	..	..	1 812
Evandale .. ..	..	..	1 462	1 403	..	59	..
George Town .. ..	..	..	6 029	1 191	..	..	4 838
Lilydale .. ..	..	..	8 308	2 229	..	6 079	..
Longford .. ..	..	..	5 145	2 320	..	..	2 825
St Leonards .. ..	..	..	16 093	911	..	15 182	..
Westbury .. ..	..	..	4 863	3 838	..	1 025	..
<b>Tamar</b> .. ..	..	..	<b>92 784</b>	<b>20 199</b>	<b>..</b>	<b>62 241</b>	<b>10 344</b>
Campbell Town .. ..	..	..	1 641	1 641	..	..	..
Fingal .. ..	..	..	3 441	3 441	..	..	..
Flinders .. ..	..	..	968	968	..	..	..
Portland .. ..	..	..	1 497	1 497	..	..	..
Ringarooma .. ..	..	..	2 474	2 474	..	..	..
Ross .. ..	..	..	541	541	..	..	..
Scottsdale .. ..	..	..	3 615	1 800	..	..	1 815
<b>North Eastern</b> .. ..	..	..	<b>14 177</b>	<b>12 362</b>	<b>..</b>	<b>..</b>	<b>1 815</b>
<b>NORTHERN</b> .. ..	..	..	<b>106 961</b>	<b>32 561</b>	<b>..</b>	<b>62 241</b>	<b>12 159</b>

Population in Local Government Areas Classified as Urban and Rural at Census, 30 June 1971—  
*continued*

Local government area (statistical division and sub-division in bold type)	Total	Rural	Urban Hobart	Urban Launceston	Other urban (a)
Burnie .. .. .	19 954	2 635	..	..	17 319
Circular Head .. .. .	7 981	4 773	..	..	3 208
Devonport .. .. .	19 802	1 619	..	..	18 183
Kentish .. .. .	5 325	r 4 149	..	..	r 1 176
King Island .. .. .	2 793	2 793	..	..	..
Latrobe .. .. .	5 115	2 651	..	..	2 464
Penguin .. .. .	4 791	2 497	..	..	2 294
Ulverstone .. .. .	11 052	3 043	..	..	8 009
Wynyard .. .. .	10 600	3 826	..	..	6 774
<b>North Western</b> .. .. .	<b>87 413</b>	<b>r 27 986</b>	..	..	<b>r 59 427</b>
Gormanston .. .. .	489	489	..	..	..
Queenstown .. .. .	5 123	98	..	..	5 025
Strahan .. .. .	447	447	..	..	..
Waratah .. .. .	1 940	774	..	..	1 166
Zeehan .. .. .	4 369	518	..	..	3 851
<b>Western</b> .. .. .	<b>12 368</b>	<b>2 326</b>	..	..	<b>10 042</b>
<b>MERSEY-LYELL</b> .. .. .	<b>99 781</b>	<b>r 30 312</b>	..	..	<b>r 69 469</b>
Migratory .. .. .	415	..	..	..	..
<b>TASMANIA</b> .. .. .	<b>390 413</b>	<b>r 100 734</b>	<b>129 928</b>	<b>62 241</b>	<b>r 97 095</b>

(a) Details of 'Other urban' localities and of Urban Hobart and Urban Launceston are given in the next section.

### Details of Urban Localities

The next table shows localities classified as urban (but excludes Urban Hobart and Urban Launceston):

Populations in Localities Classified as Urban (Excluding Urban Hobart and Urban Launceston)  
at Census, 30 June 1971

Locality classified as urban (a)	Local government area (b)	Persons in urban locality	Locality classified as urban (a)	Local government area (b)	Persons in urban locality
Beauty Point (c) ..	Beaconsfield ..	869	Penguin ..	Penguin ..	2 294
Burnie-Somerset ..	Burnie ..	17 319	Perth ..	Longford ..	1 112
Burnie-Somerset ..	Wynyard ..	2 768	Queenstown ..	Queenstown ..	5 025
Deloraine ..	Deloraine ..	1 812	Rosebery ..	Zeehan ..	2 380
Devonport ..	Devonport ..	18 183	Savage River ..	Waratah ..	1 166
George Town ..	George Town ..	4 838	Scottsdale ..	Scottsdale ..	1 815
Gowrie Park ..	Kentish ..	1 176	Smithton ..	Circular Head ..	3 208
Kingston ..	Kingborough ..	3 688	Sorell-Midway Pt ..	Sorell ..	2 029
Latrobe ..	Latrobe ..	2 464	Strathgordon ..	Hamilton ..	1 270
Lauderdale ..	Clarence ..	1 329	Ulverstone ..	Ulverstone ..	8 009
Longford ..	Longford ..	1 713	Wynyard ..	Wynyard ..	4 006
New Norfolk ..	New Norfolk ..	6 839	Zeehan ..	Zeehan ..	1 471
Orford (c) ..	Spring Bay ..	312			

(a) Population exceeding 1 000 persons and with a population density of 200 or more per square kilometre.

(b) See previous table for *total* population of local government areas.

(c) Defined as *urban* under special rules relating to *holiday resort areas*.

An analysis of the Hobart Statistical Division according to its urban and rural areas follows:



## Population of the Hobart Statistical Division at Census, 30 June 1971

Local government area	Total	Rural	Urban Hobart	Other urban	Locality classified as other urban
Hobart .. .. .	52 426	685	51 741	..	..
Glenorchy .. .. .	42 651	985	41 666	..	..
Clarence .. .. .	37 104	2 112	33 663	1 329	Lauderdale
Brighton (part) .. .. .	1 336	1 336	..	..	..
Sorell (part) .. .. .	2 575	546	..	2 029	Sorell-Midway Point
Kingborough (part) .. .. .	9 781	3 235	2 858	3 688	Kingston
New Norfolk (part) .. .. .	7 343	504	..	6 839	New Norfolk
Total Hobart Division ..	153 216	9 403	129 928	13 885	..

A similar analysis of Launceston and the local government areas enclosing it appears below:

## Population of Launceston and Surrounding Local Government Areas at Census, 30 June 1971

Local government area	Total	Rural	Urban Launceston	Other urban	Locality classified as other urban
Launceston .. .. .	35 107	..	35 107	..	..
Beaconsfield .. .. .	10 970	5 312	4 789	869	Beauty Point (a)
Evandale .. .. .	1 462	1 403	59	..	..
Lilydale .. .. .	8 308	2 229	6 079	..	..
St Leonards .. .. .	16 093	911	15 182	..	..
Westbury .. .. .	4 863	3 838	1 025	..	..
Total .. .. .	(b)	(b)	(b)62 241	(b)	..

(a) Defined as *urban* under the special rules relating to *holiday resort areas*.

(b) Included as part of Tamar Statistical Sub-division.

## Australian Comparison

The next table compares the proportions of urban and rural population of the Australian states at the Census of 30 June 1971. (In the table, Urban Launceston is included with 'Other urban'.)

Proportion of Urban and Rural Population, Australian States and Territories at Census, 30 June 1971  
(Per Cent)

Classification	Proportion of total population of state or territory								
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Urban—									
Capital city	59.20	68.33	44.80	69.02	62.26	33.29	41.26	98.00	60.32
Other ..	29.35	19.39	34.56	15.59	19.11	40.89	23.16	..	25.23
Rural ..	11.32	12.22	20.43	15.24	18.37	25.71	35.21	2.00	14.32
Migratory ..	0.13	0.06	0.21	0.15	0.26	0.11	0.37	..	0.13
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Tasmania's proportion of population in the 'capital city' urban area is less than for any other state. This is explained by the fact that Tasmania has a second major urban centre, Launceston, in the north.

### Population Centred on Hobart

#### *The Basic Criterion (1966 and 1971 Censuses)*

The basic criterion adopted for the delimitation of urban boundaries was *population density* as applied to small areas. As urbanisation increases, the change from rural to urban uses is accompanied by increasing population density. Extensive field investigations have shown that areas at the fringe, which have largely lost their rural characteristics and are developing towards urbanisation, have densities varying over only a small range. The adoption of a specific density from within that range provided a criterion which adequately delimits urban boundaries, and which can be applied objectively, uniformly, easily and without undue delay. *The criterion adopted was a density of 200 or more persons per square kilometre.* The geographic units classified according to the density criterion are census collectors' districts, the smallest units available. These areas vary in size and shape, but as far as possible they have been designed to ensure that significant urban development in large rural collectors' districts is split off as a separate collector's district.

Rigid application of the 200-person density criterion in every case would have created non-urban enclaves in obviously urban areas, e.g. sports grounds, industrial sites, etc., so special rules had to be formulated. The special rules are set out in the 1968 *Year Book*.

#### *The Hobart Statistical Division*

The next table shows the population of the components of the Hobart Statistical Division at the Census of 1971, and also gives comparative figures from the Census of 1966.

Population of Hobart Statistical Division

Components	Census, 30 June 1966	Census, 30 June 1971			Intercensal increase	
	Persons	Males	Females	Persons	Persons	Per cent
Urban Hobart .. ..	119 469	64 011	65 917	129 928	10 459	8.75
Other urban centres—						
Urban New Norfolk ..	5 770	3 451	3 388	6 839	1 069	18.53
Urban Kingston .. ..	3 263	1 838	1 850	3 688	425	13.02
Urban Sorell-Midway Pt ..	1 652	1 013	1 016	2 029	377	22.82
Urban Lauderdale ..	916	666	663	1 329	413	45.09
Total other urban ..	11 601	6 968	6 917	13 885	2 284	19.69
Total urban .. ..	131 070	70 979	72 834	143 813	12 743	9.72
Rural .. ..	10 241	4 826	4 577	9 403	—838	—8.18
Total Hobart Statistical Division .. ..	141 311	75 805	77 411	153 216	11 905	8.42

In the above table *Urban Hobart's* population at 30 June 1971 was 129 928 persons; later estimates were 130 980 (1972); 133 080 (1973); and 135 300 (1974).

#### *The Two-Boundary Concept*

For the purposes of presenting the results of the 1966 and 1971 Censuses, two boundaries around Hobart were drawn:

(i) a fixed *Outer Boundary (Hobart Statistical Division)* enclosing the area of expected urban growth during the next 20 to 30 years (broadly this comprises the cities of Hobart and Glenorchy, Clarence municipality and parts of Kingborough, New Norfolk, Brighton and Sorell municipalities); and

(ii) a flexible *Inner Boundary (Urban Hobart)* which moves outwards towards the Outer Boundary as urbanisation develops. This area in 1966 comprised the continuous area of urban development from Taroona in the south to Granton in the north and the eastern shore suburbs from Risdon Vale southward to Tranmere (the area includes only contiguous *urban* portions of the cities of Hobart and Glenorchy and of the municipalities of Clarence and Kingborough). In 1971 Rokeby was added to the area.

A detailed account of the *Two-Boundary Concept* was included in the 1968 and 1969 *Year Books*.

### Population Centred on Launceston

#### *Population of Launceston and Suburbs*

In 1891 the Tasmanian Government Statistician first published figures for an area called *Launceston and Suburbs* which comprised Launceston City plus the urban areas of surrounding municipalities, a practice continued until 1966. In 1966, to coincide with the population census, the new terminology *Urban Launceston* was adopted in lieu of *Launceston and Suburbs*; however, at the time of this change, the *Urban Launceston* boundary differed very little from that of the former *Launceston and Suburbs*. (See Appendix A for details relating to the 'Launceston Statistical District', a new boundary introduced in 1976.)

*Urban Launceston's* population at the census of 30 June 1966 was 60 456; at the 1971 census, 62 241; later estimates are 62 250 (1972); 62 730 (1973); and 63 400 (1974).

## CHARACTERISTICS OF THE POPULATION

### Birthplaces of the Population

The following table is of particular interest in view of the Australian Government's post-war policy of actively encouraging migration from Europe. It shows birthplaces of the population at the Census of 1971 and at the previous Census of 1966:

Birthplaces of the Population

Birthplace	Census, 30 June 1966		Census, 30 June 1971			
	Persons		Males	Females	Persons	
	Number	Proportion of total			Number	Proportion of total
		per cent				per cent
Australia and territories ..	335 672	90.37	174 629	175 648	350 277	89.72
New Zealand .. ..	1 237	0.33	806	744	1 550	0.40
United Kingdom and Eire ..	19 101	5.14	11 480	11 033	22 513	5.77
Germany .. ..	2 016	0.54	1 109	900	2 009	0.51
Greece .. ..	755	0.20	520	391	911	0.23
Italy .. ..	1 448	0.39	928	557	1 485	0.38
Netherlands .. ..	3 367	0.91	1 709	1 474	3 183	0.82
Poland .. ..	1 567	0.42	964	492	1 456	0.37
Yugoslavia .. ..	821	0.22	739	281	1 020	0.26
Other European countries	2 890	0.78	1 764	1 033	2 797	0.72
Total Europe ..	31 965	8.61	19 213	16 161	35 374	9.06
Other birthplaces .. ..	2 561	0.69	1 794	1 418	3 212	0.82
Total .. ..	371 435	100.00	196 442	193 971	390 413	100.00

The analysis of the birthplaces of the population at 30 June 1971 can be viewed broadly as a measure of the degree to which migration from overseas has contributed to population growth over a long period.

The next table contrasts the position in the various states and territories at 30 June 1971:

**Australia: Birthplaces of the Population at Census, 30 June 1971**  
**Proportion of Population of State or Territory According to Birthplace**  
**(Per Cent)**

Birthplace	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Australia and territories	81.06	77.95	87.85	76.54	73.43	89.72	80.64	74.76	80.33
New Zealand	0.79	0.46	0.77	0.25	0.58	0.40	1.29	0.86	0.62
United Kingdom and Eire	7.45	7.75	6.45	11.97	14.29	5.77	6.63	9.94	8.33
Other European countries ..	8.01	11.60	3.57	9.97	8.46	3.29	7.58	11.47	8.47
Other ..	2.69	2.24	1.36	1.28	3.23	0.82	3.85	2.97	2.25
Total ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

It will be observed that the Tasmanian pattern differs significantly from that of the other states and territories, except Queensland.

The following table shows particulars for Tasmania and Australia of the period of residence in Australia of persons born outside Australia:

**Period of Residence in Australia of Persons Born Outside Australia at Census, 30 June 1971**

Period of residence (years)	Tasmania		Australia	
	Persons	Proportion of total	Persons	Proportion of total
		per cent		per cent
Born outside Australia—				
Under 1 year .. .. .	2 371	0.61	185 377	1.45
1 and under 2 .. .. .	2 134	0.55	165 599	1.30
2 and under 3 .. .. .	2 027	0.52	141 619	1.11
3 and under 4 .. .. .	1 587	0.41	103 369	0.81
4 and under 5 .. .. .	1 547	0.40	99 941	0.78
5 and under 10 .. .. .	5 609	1.44	401 636	3.15
10 years and over .. ..	23 737	6.08	1 313 138	10.29
Not stated .. .. .	1 251	0.32	168 639	1.32
Total born outside Australia	40 263	10.31	2 579 318	20.22
Born in Australia .. ..	350 150	89.69	10 176 320	79.78
Total .. .. .	390 413	100.00	12 755 638	100.00

During the intercensal period 1966-1971, the number of persons born outside Australia in the Tasmanian and Australian populations increased by 12.3 per cent and 21.0 per cent respectively. This can be related to the Australian Government's policy of encouraging migration.

The previous table shows that this policy has had less effect upon the Tasmanian population than upon the Australian population.

Age Distribution

In addition to giving the number of the State's population, the Census of 30 June 1971 provided a variety of data on characteristics of that population.

The table which follows shows the age distribution at 30 June 1971 and changes since 1966:

Age Distribution of the Population at Census, 30 June 1971

Age last birthday (years)	Males	Females	Persons			
			Number	Proportion of total	Intercensal increase (a)	
					Number	Per cent (b)
				per cent		
0-4 ..	20 103	19 222	39 325	10.07	- 781	-1.95
5-9 ..	20 667	19 688	40 355	10.34	-1 332	-3.20
10-14 ..	21 318	20 325	41 643	10.67	3 272	8.53
15-19 ..	18 179	17 697	35 876	9.19	991	2.84
20-24 ..	16 059	15 708	31 767	8.14	6 106	23.79
25-29 ..	13 515	12 865	26 380	6.76	3 096	13.30
30-34 ..	11 950	11 364	23 314	5.97	2 154	10.18
35-39 ..	10 947	10 478	21 425	5.49	-1 544	-6.72
40-44 ..	11 752	10 939	22 691	5.81	-834	-3.55
45-49 ..	11 761	11 295	23 056	5.91	2 072	9.87
50-54 ..	10 089	9 896	19 985	5.12	-113	-0.56
55-59 ..	9 388	9 126	18 514	4.74	1 968	11.89
60-64 ..	7 429	7 616	15 045	3.85	1 961	14.99
65-69 ..	5 483	5 774	11 257	2.88	882	8.50
70-74 ..	3 638	4 825	8 463	2.17	430	5.35
75-79 ..	2 215	3 565	5 780	1.48	-64	-1.10
80-84 ..	1 299	2 259	3 558	0.91	448	14.41
85-89 ..	503	990	1 493	0.38	207	16.10
90-94 ..	129	280	409	0.10	58	16.52
95-99 ..	16	56	72	0.02	4	5.88
100 and over ..	2	3	5	..	-3	-37.50
Total ..	196 442	193 971	390 413	100.00	18 978	5.11

(a) Increase 1966-1971; decrease indicated by a minus (-) sign.

(b) Increase (or decrease) expressed as a percentage of each age group total recorded in 1966.

An analysis of the change in the composition of the major age groups follows:

Age Distribution of Major Age Groups, 1966 and 1971

Particulars	Age group (years)			Total
	Under 18	18-64	65 and over	
Males—				
30 June 1966 .. .. no.	72 021	103 006	12 363	187 390
30 June 1971 .. .. no.	73 343	109 814	13 285	196 442
Percentage increase (1966-1971)%	1.84	6.61	7.46	4.83
Females—				
30 June 1966 .. .. no.	69 220	98 113	16 712	184 045
30 June 1971 .. .. no.	70 393	105 826	17 752	193 971
Percentage increase (1966-1971)%	1.69	7.86	6.22	5.39

## Occupational Status

The table below shows the occupational status of persons in the labour force at the respective census dates (30 June 1966 and 1971):

Occupational Status: Analysis of Those in Labour Force

Occupational status	Census, 30 June 1966		Census, 30 June 1971			
	Persons		Males	Females	Persons	
	Number	Proportion of labour force			Number	Proportion of labour force
		per cent				per cent
In labour force—						
Employed—						
Employer .. ..	10 004	6.79	6 841	1 727	8 568	5.59
Self-employed .. ..	10 806	7.33	8 442	1 892	10 334	6.74
Employee (a) .. ..	123 023	83.51	90 627	39 649	130 276	85.00
Unpaid helper (b) .. ..	1 372	0.93	277	760	1 037	0.68
Total .. ..	145 205	98.56	106 187	44 028	150 215	98.01
Unemployed .. ..	2 117	1.44	1 786	1 261	3 047	1.99
Total labour force	147 322	100.00	107 973	45 289	153 262	100.00
Not in labour force .. ..	224 113	..	88 469	148 682	237 151	..
Total .. ..	371 435	..	196 442	193 971	390 413	..

(a) On wage or salary.

(b) Not on wage or salary.

The following table shows the status of persons not in the labour force in the 1966 and 1971 Censuses:

Occupational Status of Those Not in Labour Force

Occupational status	Census, 30 June 1966		Census, 30 June 1971			
	Persons		Males	Females	Persons	
	Number	Proportion of those not in labour force			Number	Proportion of those not in labour force
		per cent				per cent
Not in labour force—						
Home duties .. ..	61 113	27.27	..	75 568	75 568	31.86
Child not at school .. ..	44 018	19.64	21 358	20 508	41 866	17.65
Child at school .. ..	86 428	38.56	45 665	43 121	88 786	37.44
Full-time student .. ..			2 757	2 503	5 260	2.22
Other .. ..	32 554	14.53	18 689	6 982	25 671	10.82
Total not in labour force	224 113	100.00	88 469	148 682	237 151	100.00
In labour force .. ..	147 322	..	107 973	45 289	153 262	..
Total .. ..	371 435	..	196 442	193 971	390 413	..

In the next table, the proportions of the population in the labour force in Tasmania and Australia at the respective census dates are shown:

Tasmania and Australia: Proportion of Population in Labour Force  
(Per Cent)

Particulars	Census, 30 June 1966			Census, 30 June 1971		
	Males	Females	Persons	Males	Females	Persons
Tasmania .. .. .	56.86	22.15	39.66	54.96	23.35	39.26
Australia .. .. .	58.83	25.02	42.05	56.76	26.66	41.79

Nationality of the Population

It should be noted that the federal *Nationality and Citizenship Act* 1948 created, for the first time, the status of 'Australian Citizen'; all Australian citizens under the provisions of this Act are declared to be British subjects. From the earlier table on birthplaces of the Tasmanian population, it is established that 95.84 per cent were born in Australia and its territories, N.Z., the United Kingdom or Eire. While birthplace does not necessarily determine nationality in all cases, comparison of birthplace with nationality suggests that the percentage of naturalised British subjects was probably about three per cent of the Tasmanian population at 30 June 1971.

The following table shows the nationality of the Tasmanian population at 30 June 1971 and also at 30 June 1966:

Nationality (i.e. Allegiance) of the Population

Nationality	Census, 30 June 1966		Census, 30 June 1971			
	Persons		Males	Females	Persons	
	Number	Proportion of total			Number	Proportion of total
		per cent				per cent
Australian citizens and other British subjects (a)—						
Born in Australia .. ..	335 582	90.35	174 560	175 590	350 150	89.69
Born outside Australia ..	30 140	8.11	18 309	15 838	34 147	8.75
Total .. .. .	365 722	98.46	192 869	191 428	384 297	98.43
Foreign—						
Dutch .. .. .	1 265	0.34	432	397	829	0.21
German .. .. .	792	0.21	307	223	530	0.14
Greek .. .. .	556	0.15	279	259	538	0.14
Italian .. .. .	913	0.25	464	315	779	0.20
Polish .. .. .	417	0.11	125	93	218	0.06
U.S. American .. .. .	221	0.06	169	112	281	0.07
Yugoslavian .. .. .	378	0.10	265	98	363	0.09
Other (incl. stateless) ..	1 171	0.32	1 532	1 046	2 578	0.66
Total foreign .. ..	5 713	1.54	3 573	2 543	6 116	1.57
Total .. .. .	371 435	100.00	196 442	193 971	390 413	100.00

(a) All persons of individual citizenship status who, by virtue of the federal *Nationality and Citizenship Act* 1948-1966, are deemed to be British subjects. Includes naturalised British. For purposes of this table, Irish nationality is included with British.

## Industry

For the Census of 30 June 1971 a new industry classification was adopted; therefore the 1966 and 1971 classifications of the population by industry are not strictly comparable. The following principal comparisons should be regarded as approximate only: manufacturing—1971, 20.57 per cent of the labour force (1966 23.05 per cent); wholesale and retail trade—1971, 17.69 (1966, 15.59); community services—1971, 11.59 (1966, 11.87); agriculture, forestry, fishing and hunting—1971, 8.99 (1966, 11.69); and construction—1971, 8.43 (1966, 9.70).

In the case of employees, the basis of classification is the industry of the employer; thus a carpenter employed by a mining company will appear under 'Mining' not under 'Construction'. Employees in the government sector (Australian, state, semi-government and local government) are not recorded separately but are allocated to appropriate industry groupings, e.g. state railway workers to 'Transport and storage', postal workers to 'Communication', etc. Government employees not classified under any of the major industry groups in the following table appear under 'Public administration and defence'.

'Labour force' should not be confused with wage and salary earners since the term, by definition, includes employees, employers, self-employed, unpaid helpers and those classified as unemployed.

The next table shows the main groups of industry in which the labour force of Tasmania was employed at 30 June 1971:

Industry of Employed Population in Labour Force: Census, 30 June 1971

Particulars	Males	Females	Persons	
			Number	Proportion of total in labour force
				per cent
Industry group—				
Agriculture, forestry, fishing and hunting—				
Agriculture and services to agriculture	10 469	1 616	12 085	7.89
Forestry and logging .. .. .	1 095	41	1 136	0.74
Fishing and hunting .. .. .	530	21	551	0.36
Total .. .. .	12 094	1 678	13 772	8.99
Mining .. .. .	4 375	204	4 579	2.99
Manufacturing .. .. .	25 313	6 219	31 532	20.57
Electricity, gas and water .. .. .	3 389	293	3 682	2.40
Construction .. .. .	12 502	415	12 917	8.43
Wholesale and retail trade .. .. .	16 522	10 594	27 116	17.69
Transport and storage .. .. .	6 919	676	7 595	4.96
Communication .. .. .	2 443	794	3 237	2.11
Finance, insurance, real estate and business services .. .. .	4 537	3 285	7 822	5.10
Public administration and defence .. .. .	4 987	2 223	7 210	4.70
Community services .. .. .	6 516	11 244	17 760	11.59
Entertainment, recreation, restaurants, hotels and personal services .. .. .	2 904	4 713	7 617	4.97
Other and not stated .. .. .	3 686	1 690	5 376	3.51
Total employed .. .. .	106 187	44 028	150 215	98.01
Unemployed .. .. .	1 786	1 261	3 047	1.99
Total in labour force .. .. .	107 973	45 289	153 262	100.00
Not in labour force .. .. .	88 469	148 682	237 151	..
Total population .. .. .	196 442	193 971	390 413	..



For Australia, the principal industry groups in which the labour force was employed were: manufacturing, 22.8 per cent of those in the labour force; whole-sale and retail trade, 18.5 per cent; community services, 10.6 per cent; construction, 7.3 per cent; and agriculture, forestry, fishing and hunting, 7.2 per cent.

### Religion

Commencing with the Census of 1933, and in subsequent censuses, the collection forms carried a note reminding the public that there was no legal obligation to answer the question on religion.

At the 1966 Census the householder was asked to state his religious denomination; however, for the 1971 Census an additional instruction was included in the religion question—'(If no religion write 'none')'. This led to a large increase in the number of persons answering 'none' to the religious question, whereas previously these householders had made no reply to the question. Therefore in the following table, the classifications 'no religion' and 'no reply' are not comparable between censuses, but the total of the two classifications is comparable.

The following table analyses the Tasmanian population according to religion reported at the Censuses of 1966 and 1971:

Religions of the Population

Religion	Census, 30 June 1966		Census, 30 June 1971			
	Persons		Males	Females	Persons	
	Number	Proportion of total			Number	Proportion of total
		per cent				per cent
Christian—						
Baptist .. ..	7 759	2.09	3 867	4 172	8 039	2.06
Brethren .. ..	3 062	0.82	1 906	2 023	3 929	1.01
Catholic .. ..	71 089	19.14	38 761	38 489	77 250	19.79
Churches of Christ .. ..	2 701	0.73	1 165	1 335	2 500	0.64
Church of England .. ..	166 023	44.70	83 776	85 313	169 089	43.31
Congregational .. ..	4 530	1.22	1 937	2 197	4 134	1.06
Greek Orthodox .. ..	1 514	0.41	1 096	822	1 918	0.49
Lutheran .. ..	1 742	0.47	966	871	1 837	0.47
Methodist .. ..	43 084	11.60	20 412	21 761	42 173	10.80
Presbyterian .. ..	17 498	4.71	8 459	8 822	17 281	4.43
Salvation Army .. ..	1 497	0.40	1 508	1 668	3 176	0.81
Seventh-day Adventist .. ..	1 924	0.52	665	895	1 560	0.40
Protestant undefined .. ..	2 661	0.72	2 119	2 124	4 243	1.09
Other .. ..	5 243	1.41	3 582	3 684	7 266	1.86
Total Christian .. ..	330 327	88.93	170 219	174 176	344 395	88.21
Non-Christian—						
Hebrew .. ..	207	0.06	54	44	98	0.03
Other .. ..	278	0.07	321	142	463	0.12
Total non-Christian .. ..	485	0.13	375	186	561	0.14
Indefinite .. ..	2 275	0.61	529	464	993	0.25
No religion (a) .. ..	2 020	0.54	12 229	7 992	20 221	5.18
No reply (a) .. ..	36 328	9.78	13 090	11 153	24 243	6.21
Total .. ..	371 435	100.00	196 442	193 971	390 413	100.00

(a) See section preceding the table for an explanation of the lack of comparability between the 1966 and 1971 figures.

## Marital Status

The next table compares the marital status of the population at the Censuses of 1966 and 1971:

Marital Status of the Population

Particulars	Census, 30 June 1966		Census, 30 June 1971			
	Persons		Males	Females	Persons	
	Number	Proportion of total			Number	Proportion of total
		per cent				per cent
Never married—						
Under 15 years of age ..	120 164	32.35	62 088	59 235	121 323	31.08
15 years and over ..	64 365	17.33	37 768	27 445	65 213	16.70
Total .. .. .	184 529	49.68	99 856	86 680	186 536	47.78
Married .. .. .	163 131	43.92	88 698	88 359	177 057	45.35
Married but permanently separated .. .. .	4 290	1.15	2 314	2 484	4 798	1.23
Divorced .. .. .	2 526	0.68	1 678	1 723	3 401	0.87
Widowed .. .. .	16 959	4.57	3 896	14 725	18 621	4.77
Total .. .. .	371 435	100.00	196 442	193 971	390 413	100.00

## VITAL STATISTICS

## Historical

In 1839, John Montagu, Colonial Secretary of Van Diemen's Land submitted to the Governor, Sir John Franklin, a series of statistical returns; below is shown part of Return No. 17 relating to births, deaths and marriages:

Vital Statistics of Van Diemen's Land

Year	Births	Deaths	Marriages
1824 .. .. .	177	132	75
1828 .. .. .	309	250	120
1829 .. .. .	301	260	166
1830 .. .. .	460	270	163
1831 .. .. .	422	282	114
1833 .. .. .	455	379	257
1834 .. .. .	714	557	370
1835 .. .. .	730	525	356
1836 .. .. .	684	443	496
1837 .. .. .	754	597	381
1838 .. .. .	717	403	331

The complete table covers the period 1824-1838 but entries for 1825, 1826, 1827 and 1832 read 'No Returns'. In a commentary for the Governor's guidance, Montagu wrote: 'I would also observe that the number of births and deaths are those only returned by ministers of the Church of England, and the former column refers to those only who have been christened, and although the number of deaths must be near the truth, yet the actual number of births has been very much understated'. Thus even though the Tasmanian record of births, deaths and marriages covers a period of 140 years, these early figures cannot be accepted as complete.

### Registration Provisions

Franklin's Legislative Council had passed in 1838 *An Act for Registering Births, Deaths and Marriages in the Island of Van Diemen's Land and its Dependencies*. This provided for a Registrar in Hobart with subordinate Deputy Registrars in registration districts throughout the Colony; they were to record births and deaths and report them to the Registrar. Ministers celebrating marriage were required to report direct to the Registrar; Deputy Registrars could also officiate and had certain licensing functions. As late as 1867, the Government Statistician complained that accurate death rates could not be compiled because Section 22 of the 1838 Act excluded the registration of the death of any prisoner of the Crown serving an unexpired sentence of transportation. In 1868, he reported that the death rate could be accepted as correct since 'only one transported offender died during the year'. This would certainly suggest that *total* deaths for the island were not recorded for the years 1839 to 1866.

From 1857 to 1882, the Registrar of the Supreme Court was also Registrar of Births, Deaths and Marriages; from 1882 to 1919, the Government Statistician was the Registrar; from 1919, the Registrar-General's Department operated as a separate entity.

### The Registrar-General

The principal Act under which the Registrar-General operates is the *Registration of Births and Deaths Act 1895*, as amended, which provides for District Registrars and the appointment of a Registrar-General to be responsible for the maintenance of central registers; in essence, the regional approach of the 1838 Act is retained. The functions of the Registrar-General in relation to the registration of marriages were last defined in the *Marriage Act 1942*. However, in 1961, the Australian Parliament passed the *Marriage Act 1961*. A few minor provisions (relating mainly to certain extensions of the application of the prohibited degrees) came into operation on the date the Act received the Royal Assent (6 May 1961) and the remainder of the Act came into operation on 1 September 1963. On this date, the Act superseded the marriage laws of all the states but did not affect the essential function of the Registrar-General in the central registration of marriages.

### Summary of Principal Statistics

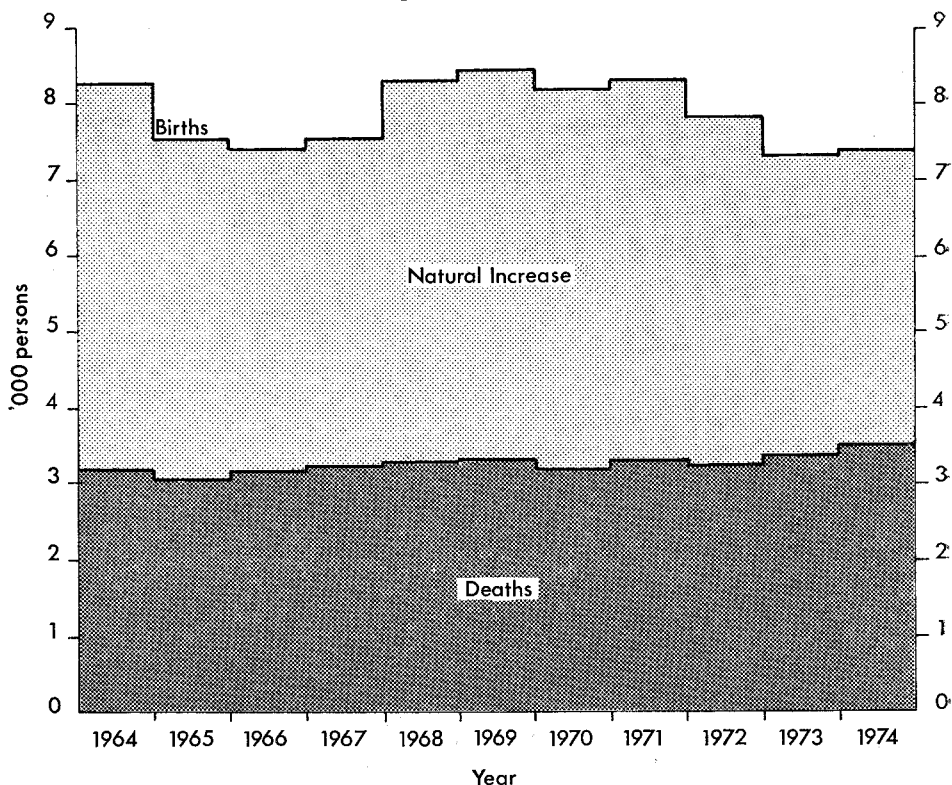
The principal number and rates relating to vital statistics in Tasmania for recent years are given in the following table:

Summary of Vital Statistics

Year	Number of—				Rate per 1 000 of mean population			Infant mortality (deaths under one year per 1 000 live births)
	Marriages	Live births	Deaths	Infant deaths (a)	Marriages	Live births	Deaths	
1969 .. ..	3 532	8 445	3 309	139	9.17	21.93	8.59	16.5
1970 .. ..	3 535	8 185	3 174	116	9.11	21.09	8.18	14.2
1971 .. ..	3 578	8 321	3 295	114	9.15	21.27	8.42	13.7
1972 .. ..	3 426	7 824	3 227	127	8.71	19.90	8.21	16.2
1973 .. ..	3 395	7 326	3 347	137	8.55	18.46	8.43	18.7
1974 .. ..	3 567	7 398	3 484	123	8.88	18.42	8.68	16.6

(a) Deaths under one year; included also in total deaths.

## Births, Deaths, Natural Population Increase: Tasmania, 1964 to 1974



## Crude Rate Comparisons

The rates per 1 000 of mean population for births, deaths and marriages are referred to as *crude* rates. It will be seen, in regard to marriages, that not *all* the population is 'at risk', children and those already married being obvious excluded examples. Similarly, births are clearly events related to certain fertile age groups of women and not to the total population; births also are related to the number of married persons and to the age structure of the married proportion of the community. Finally, deaths have a definite relationship with the numbers of each sex and the age structure of the community. Crude rates are valid measures of comparison in the short term only.

Subject to this limitation, the following Tasmanian historical comparisons exist as from 1880:

1. Crude marriage rate: highest 10.51 (1946); lowest 5.50 (1859 and 1896).
2. Crude birth rate: highest 36.63 (1884); lowest 18.42 (1974).
3. Crude death rate: highest 17.41 (1883); lowest 7.70 (1960).

It is probably significant that 1946 was the year of rapid demobilisation after World War II and that a similar marriage trend was recorded for 1919 and 1920 after World War I. The crude birth rate for 1974 (18.42 per 1 000 of mean population) is the lowest recorded, even lower than the 18.46 recorded in 1973. (The previous record low was 19.39 recorded in 1935 during the world depression.) The popularly accepted theory attributes the current low figure to

deliberate family planning. This is supported by the fact that, although girls born in the post-war period have now entered the ranks of those likely to marry and have therefore increased the number of potentially fertile women, the fertility rate is declining (as described in a later section under 'Births').

The effect of the post-war increase in births on the number of potentially fertile women may be inferred from the following table:

Pre-War, War-Time and Post-War Female Births

Year	Number	Year	Number	Year	Number
Pre-war—		War-time—		Post-war—	
1934 .. ..	2 127	1940 .. ..	2 425	1949 .. ..	3 532
1935 .. ..	2 211	1941 .. ..	2 574	1950 .. ..	3 490
1936 .. ..	2 226	1942 .. ..	2 612	1951 .. ..	3 553
1937 .. ..	2 359	1943 .. ..	2 677	1952 .. ..	3 790
1938 .. ..	2 366	1944 .. ..	2 503	1953 .. ..	3 843
1939 .. ..	2 409	1945 .. ..	2 882	1954 .. ..	3 851

### Review of Infant Mortality

Infant mortality relates to the number of deaths *under one year* and the rate is expressed as the number of such deaths per 1 000 live births. It follows that comparisons over long periods of time are valid and not affected by the limitations attached to crude rates. In the following record of infant mortality, the drop in rates has been dramatic with the 1971 rate (13.7) being the lowest yet experienced.

Infant Mortality Rates (Deaths under One Year Per 1 000 Live Births) Selected Years from 1880

Year	Rate	Year	Rate	Year	Rate
1880 .. ..	112.3	1930 .. ..	50.6	1971 .. ..	13.7
1890 .. ..	105.6	1940 .. ..	35.2	1972 .. ..	16.2
1900 .. ..	80.0	1950 .. ..	23.8	1973 .. ..	18.7
1910 .. ..	101.7	1960 .. ..	19.1	1974 .. ..	16.6
1920 .. ..	65.5	1970 .. ..	14.2		

The peak year since 1880 was 1883 with a rate of 124.0. In the period 1880-1910, the annual infant mortality rate exceeded 100 on 14 occasions. There has been a steady improvement in infant mortality rates over the past 50 years. The rate for the period 1916-1920 was 64, for the year 1961, 16.8, and in 1971 a record minimum of 13.7 was achieved.

At the turn of the century, 20 to 25 per cent of all deaths were those of infants under one year. The rapid fall in infant mortality rates had a marked effect on the crude death rates as infant deaths are a component of total deaths. Infant mortality has fallen largely due to advances in medical science enabling the control of disease and the development of techniques to reduce perinatal deaths; improvements in child care and nutrition also have made a significant contribution.

### Marriages

The following table summarises the number of marriages and the crude marriage rate since 1880:

## Marriages and Crude Marriage Rates, Selected Years from 1880

Year	Marriages		Year	Marriages	
	Number	Crude rates(a)		Number	Crude rates(a)
1880 .. ..	840	7.39	1940 .. ..	2 476	10.27
1890 .. ..	954	6.66	1950 .. ..	2 560	9.18
1900 .. ..	1 332	7.72	1960 .. ..	2 713	7.82
1910 .. ..	1 493	7.82	1970 .. ..	3 535	9.11
1920 .. ..	1 999	9.50	1973 .. ..	3 395	8.55
1930 .. ..	1 450	6.56	1974 .. ..	3 567	8.88

(a) Number of marriages per 1 000 of mean population.

The following table gives the average age of brides and bridegrooms in recent years:

Average Age of Bridegrooms and Brides  
(Years)

Particulars	1969	1970	1971	1972	1973	1974
Average age of bridegrooms—						
Bachelors .. ..	24.10	23.85	24.01	23.98	23.96	23.91
Widowers .. ..	54.85	56.87	55.46	56.15	57.87	58.91
Divorcees .. ..	40.47	39.75	38.73	39.53	38.39	38.53
All bridegrooms ..	25.79	25.81	26.02	26.08	26.11	25.97
Average age of brides —						
Spinsters .. ..	21.36	21.38	21.24	21.16	21.21	21.20
Widows .. ..	48.23	49.03	48.59	50.18	49.90	49.22
Divorcees .. ..	37.27	35.47	35.66	35.95	35.46	34.54
All brides .. ..	23.03	22.96	23.14	23.23	23.26	23.24

The next table analyses the ages of all bridegrooms and brides contracting marriages:

## Age of Bridegrooms and Brides, 1974

Age (years)	Bridegrooms		Brides	
	Number	Per cent of total	Number	Per cent of total
Under 20 .. ..	371	10.40	1 391	39.00
20-24 .. ..	2 009	56.32	1 500	42.05
25-29 .. ..	642	17.99	310	8.69
30-34 .. ..	195	5.47	119	3.34
35-39 .. ..	101	2.83	59	1.65
40-44 .. ..	68	1.91	52	1.46
45-49 .. ..	46	1.29	34	0.95
50-54 .. ..	33	0.93	32	0.90
55-59 .. ..	33	0.93	20	0.56
60-64 .. ..	28	0.78	30	0.84
65 and over ..	41	1.15	20	0.56
Total .. ..	3 567	100.00	3 567	100.00

The number of persons marrying under 21 years of age in recent years is shown in the next table:

## Marriages: Persons Under 21 Years of Age

Year	Age in years						Persons under 21 years	
	15	16	17	18	19	20	Number	Percentage of all marriages
BRIDEGROOMS								
1970 .. ..	..	..	6	160	235	348	749	21.19
1971 .. ..	..	1	8	111	244	362	726	20.29
1972 .. ..	..	1	8	127	235	336	707	20.64
1973 .. ..	..	..	4	111	218	375	708	20.85
1974 .. ..	..	..	7	144	220	393	764	21.42
BRIDES								
1970 .. ..	2	111	269	425	541	505	1 853	52.42
1971 .. ..	2	120	247	437	557	534	1 897	53.02
1972 .. ..	8	131	247	432	490	503	1 811	52.86
1973 .. ..	4	93	225	445	532	515	1 814	53.43
1974 .. ..	1	88	231	483	588	507	1 898	53.21

In the next table, the conjugal condition of persons marrying is shown for a six-year period.

## Conjugal Condition of Persons Marrying

Year	Bridegrooms			Brides			Total marriages
	Bachelors	Widowers	Divorcees	Spinsters	Widows	Divorcees	
1969 .. ..	3 252	96	184	3 234	103	195	3 532
1970 .. ..	3 202	95	238	3 236	101	198	3 535
1971 .. ..	3 214	109	255	3 224	129	225	3 578
1972 .. ..	3 072	102	252	3 063	120	243	3 426
1973 .. ..	3 028	102	265	3 025	118	252	3 395
1974 .. ..	3 184	86	297	3 169	133	265	3 567

## Marriages, Religious and Civil

Particulars of celebration	1969	1970	1971	1972	1973	1974
Religious rites—						
Church of England ..	1 483	1 431	1 359	1 332	1 265	1 350
Catholic .. ..	759	738	757	721	696	693
Presbyterian .. ..	148	160	150	161	148	155
Methodist .. ..	444	477	498	412	466	440
Congregational .. ..	52	45	43	47	53	51
Baptist .. ..	90	97	86	101	89	89
Churches of Christ ..	25	23	19	21	19	22
Salvation Army .. ..	25	23	17	26	35	38
Seventh-day Adventist ..	12	7	12	12	5	5
Other .. ..	80	90	112	92	112	123
Civil ceremonies (a) ..	414	444	525	501	507	601
Total .. ..	3 532	3 535	3 578	3 426	3 395	3 567

(a) Marriages contracted before registrars.

The number of marriages performed according to the rites of the principal religious denominations and of civil marriages contracted before registrars are shown for recent years in the previous table. Almost 12 per cent of all marriages in 1969 were civil marriages contracted before registrars. In 1974 the figure reached 16.8 per cent of all marriages.

### Divorce

Divorce in Tasmania was provided for under the *Matrimonial Causes Act* 1860, as amended. However, as from 1 February 1961, Australia came under a uniform divorce law, the *Matrimonial Causes Act* 1959 of the Australian Parliament having come into effect on that date.

In 1974 dissolutions of marriage represented 15.03 per cent of the number of marriages contracted for that year (536 dissolutions compared with 3 567 marriages). The increase in the number of dissolutions is illustrated in the historical table which follows:

Dissolutions of Marriage Granted (a): Summary from 1881

Decade ending—	Maximum in decade		Minimum in decade	
	Year	Number	Year	Number
1890 .. .. .	1886	6	1884	..
1900 .. .. .	1894	6	1896	3
1910 .. .. .	1909	13	1904	2
1920 .. .. .	1920	18	1916	2
1930 .. .. .	1928	55	1924	20
1940 .. .. .	1938	109	1937	30
1950 .. .. .	1949	266	1942	83
1960 .. .. .	1954	233	1958	176
1970 .. .. .	1970	426	1964	230

(a) Includes nullities of marriage and judicial separations.

The following table gives the number of petitions filed by husbands and wives respectively, and the number of dissolutions of marriage during the last six years. Every decree of dissolution of marriage is, in the first instance, a decree *nisi* and is normally made absolute after a period of three months.

Petitions Filed and Dissolutions Granted

Particulars	1969	1970	1971	1972	1973	1974
Petitions for dissolution (a) filed by—						
Husband .. .. .	202	224	221	237	281	309
Wife .. .. .	227	279	267	288	354	444
Total petitions .. .. .	429	503	488	525	635	753
Dissolutions (a) granted on petition of—						
Husband .. .. .	159	187	198	200	186	240
Wife .. .. .	172	239	234	246	258	296
Total dissolutions .. .. .	331	426	432	446	444	536

(a) Includes nullities of marriage and judicial separations.



The next table contains separate details of petitions filed for dissolutions and nullities:

Petitions Filed, 1974

Petition for	Petitioner		Total
	Husband	Wife	
Dissolution .. .. .	307	442	749
Nullity .. .. .	2	2	4
Total .. .. .	309	444	753

The table that follows analyses the grounds on which dissolutions were granted:

Dissolutions (a) Granted According to Grounds, 1974

Grounds	Petitioner		Total
	Husband	Wife	
Single ground—			
Desertion .. .. .	81	97	178
Adultery .. .. .	114	107	221
Separation .. .. .	40	58	98
Cruelty .. .. .	..	3	3
Drunkenness .. .. .	..	7	7
Other .. .. .	1	2	3
Dual grounds—			
Desertion and adultery .. .. .	1	7	8
Desertion and separation .. .. .	3	6	9
Cruelty and drunkenness .. .. .	..	5	5
Other .. .. .	..	4	4
Total .. .. .	240	296	536

(a) Includes nullities of marriage and judicial separations.

The more frequent grounds for the granting of dissolutions in recent years are shown in the next table:

Dissolutions (a) Granted According to Principal Grounds: Summary

Grounds	1969	1970	1971	1972	1973	1974
On petition of husband—						
Adultery .. .. .	61	74	80	84	69	114
Desertion .. .. .	74	72	76	76	80	81
Separation .. .. .	17	34	39	30	34	40
Other .. .. .	7	7	3	10	3	5
On petition of wife—						
Adultery .. .. .	43	73	71	80	83	107
Desertion .. .. .	70	74	74	88	92	97
Separation .. .. .	38	59	59	45	60	58
Other .. .. .	21	33	30	33	23	34
Total .. .. .	331	426	432	446	444	536

(a) Includes nullities of marriage and judicial separations.

## Dissolutions of Marriage 1974 (a): Ages of Parties at Time of Dissolution

Age of husband (years)	Age of wife (years)							Total husbands
	Under 20	20-29	30-39	40-49	50-59	60 and over	Not stated	
Under 20 .. ..	..	..	..	..	..	..	..	..
20-29 .. .. .	1	132	6	..	..	..	..	139
30-39 .. .. .	..	75	104	2	..	..	..	181
40-49 .. .. .	..	1	39	78	3	..	..	121
50-59 .. .. .	..	1	5	22	29	4	..	61
60 and over ..	..	..	..	6	9	9	..	24
Not stated .. .	..	..	..	..	..	..	10	10
Total wives ..	1	209	154	108	41	13	10	536

(a) Includes nullities of marriage and judicial separations.

## Dissolutions of Marriage, 1974 (a): Duration of Marriage and Issue

Duration of marriage (years)	Dissolutions of marriages with—						Total marri- ages dissolved	Total number of children (b)
	No children	1 child	2 children	3 children	4 children	5 or more children		
0- 4 .. .. .	26	22	5	..	..	..	53	32
5- 9 .. .. .	28	58	63	13	5	1	168	249
10-14 .. .. .	12	26	36	26	9	3	112	227
15-19 .. .. .	3	8	15	12	12	11	61	184
20-24 .. .. .	12	8	9	11	4	13	57	146
25-29 .. .. .	18	21	6	5	..	3	53	64
30-34 .. .. .	10	5	1	..	..	..	16	7
35-39 .. .. .	9	2	1	..	..	..	12	4
40-44 .. .. .	2	..	..	..	..	..	2	..
45 and over ..	2	..	..	..	..	..	2	..
Total .. .. .	122	150	136	67	30	31	536	913

(a) Includes nullities of marriage and judicial separations.

(b) Under 21 years of age.

## Births

The following table summarises births and crude birth rates from 1880:

## Number of Births and Crude Birth Rates, Selected Years from 1880

Year	Births		Year	Births	
	Number	Per 1 000 of mean population		Number	Per 1 000 of mean population
1880 .. ..	3 739	32.90	1930 .. ..	4 785	21.66
1885 .. ..	4 637	36.29	1935 .. ..	4 456	19.39
1890 .. ..	4 813	33.60	1940 .. ..	4 994	20.71
1895 .. ..	4 790	31.16	1945 .. ..	5 785	23.27
1900 .. ..	4 864	28.18	1950 .. ..	7 242	25.96
1905 .. ..	5 257	28.50	1955 .. ..	8 089	25.63
1910 .. ..	5 586	29.25	1960 .. ..	8 853	25.52
1915 .. ..	5 845	29.78	1965 .. ..	7 535	20.48
1920 .. ..	5 740	27.29	1970 .. ..	8 185	21.09
1925 .. ..	5 218	24.21	1974 .. ..	7 398	18.42

The next table shows the number of births classified according to the age of mother and also crude birth rates for recent years:

Number of Births Classified According to Age of Mother, and Crude Birth Rates

Age group (years)	1970	1971	1972	1973	1974
10-14 .. .. .	6	9	4	7	7
15-19 .. .. .	1 175	1 153	1 176	1 101	1 056
20-24 .. .. .	3 127	3 277	2 871	2 677	2 699
25-29 .. .. .	2 328	2 364	2 382	2 322	2 433
30-34 .. .. .	999	1 013	939	836	852
35-39 .. .. .	420	374	359	291	278
40-44 .. .. .	120	120	86	87	69
45 and over .. .. .	10	11	7	5	4
Total births .. .. .	8 185	8 321	7 824	7 326	7 398
Crude birth rate (a) .. .. .	21.09	21.27	19.90	18.46	18.42

(a) Births per 1 000 of mean population.

One observation of interest is that births of males, in total, usually exceed those of females. The next table shows births by sex and indicates masculinity:

Births by Sex and Masculinity

Particulars	1970	1971	1972	1973	1974
Births of—					
Males .. .. .	4 232	4 205	3 935	3 744	3 760
Females .. .. .	3 953	4 116	3 889	3 582	3 638
Total .. .. .	8 185	8 321	7 824	7 326	7 398
Masculinity (a) .. .. .	107.06	102.16	101.18	104.52	103.35

(a) Number of male births per 100 female births.

In the following table, births are analysed by sex and by the age of the mother and classified as nuptial or ex-nuptial:

Births by Sex, Age of Mother and Nuptial State, 1974

Age group (years)	Nuptial births		Ex-nuptial births		All births		
	Male	Female	Male	Female	Male	Female	Total
10-14 .. .. .	..	..	5	2	5	2	7
15-19 .. .. .	352	331	195	178	547	509	1 056
20-24 .. .. .	1 280	1 213	87	119	1 367	1 332	2 699
25-29 .. .. .	1 175	1 137	62	59	1 237	1 196	2 433
30-34 .. .. .	413	387	27	25	440	412	852
35-39 .. .. .	114	143	10	11	124	154	278
40-44 .. .. .	32	29	5	3	37	32	69
45 and over .. .. .	3	1	..	..	3	1	4
Total .. .. .	3 369	3 241	391	397	3 760	3 638	7 398

The table that follows summarises, for a six-year period, births according to whether the child was first-born or the issue of a subsequent birth:

## Births of First Born and Subsequent Births: Nuptial State of Mothers

Classification of births	1969	1970	1971	1972	1973	1974
Nuptial—						
First born (a) .. ..	2 731	2 641	2 691	2 544	2 358	2 456
Subsequent birth .. ..	5 067	4 894	4 908	4 585	4 225	4 154
Ex-nuptial .. ..	647	650	722	695	743	788
Total births ..	8 445	8 185	8 321	7 824	7 326	7 398
Ex-nuptial births as per cent- age of total births ..	7.7	7.9	8.7	8.9	10.1	10.7

(a) In case of multiple births with no previous issue, first child born alive is recorded as 'First born' and subsequent child or children as 'Subsequent birth'.

It should be noted that 'First born' in the previous tables refers specifically to the union from which the child originates; thus a mother married for the second time could be credited with a 'First born' child despite having issue from the previous union.

## Birth Rates

The *crude birth rate* is expressed as the number of births per 1 000 of mean population; this is obviously an unsatisfactory measure since births are events strictly related to the number of women in the fertile age groups. A more satisfactory index is the *fertility rate*, expressed as the number of births per 1 000 women aged 15-44 years. However, there are profound differences between the relative fertility of various age groups and a further refinement is the calculation of *age-specific birth rates*. The following table shows age-specific birth rates for each five-year age group of females from 10-49 years, the fertility rate applicable to all women in the age group 15-44 years and the crude birth rate.

## Birth and Fertility Rates

Particulars	1969	1970	1971	1972	1973	1974
AGE SPECIFIC BIRTH RATES (a)						
Age group (years)—						
10-14 .. ..	0.1	0.3	0.4	0.2	0.3	0.3
15-19 .. ..	66.7	64.3	65.2	64.0	58.6	54.6
20-24 .. ..	210.1	190.7	208.6	186.2	166.9	165.6
25-29 .. ..	196.3	189.2	181.0	176.3	162.8	163.1
30-34 .. ..	95.1	89.8	89.1	81.3	71.4	70.7
35-39 .. ..	43.9	40.8	35.7	34.4	27.6	26.3
40-44 .. ..	11.2	10.9	11.0	8.0	8.2	6.5
45-49 .. ..	1.1	0.9	1.0	0.6	0.5	0.3
FERTILITY RATE (b)						
Fertility rate .. ..	108	103	105	98	90	88
CRUDE BIRTH RATE (c)						
Crude birth rate .. ..	21.9	21.1	21.3	19.9	18.5	18.4

(a) Number of births per 1 000 women in age groups shown.

(b) Number of births per 1 000 women aged 15-44 years.

(c) Number of births per 1 000 of mean population.

### Infant Mortality

Infant mortality relates to children dying within one year of birth. The table that follows analyses such deaths in further detail and shows that the greatest mortality rate is associated with infants in their first day of life. To obtain a correct picture of relative risk, it should be noted that deaths in the 'one day and under one week' class are spread over six days; in the 'one week and under four weeks' class spread over 21 days; and in the final class, spread over 338 days.

Infant Mortality: Number of Deaths and Mortality Rates at Specific Ages

Year	Infant deaths		Mortality rate (a) at age specified			
	Number	Per 1 000 live births	Under 1 day	1 day and under 1 week	1 week and under 4 weeks	4 weeks and under 12 months
1969	139	16.5	5	4	2	6
1970	116	14.2	4	4	1	5
1971	114	13.7	3	4	1	6
1972	127	16.2	5	2	2	7
1973	137	18.7	6	4	1	7
1974	123	16.6	5	4	1	6

(a) Infant deaths per 1 000 live births; rates have been rounded to whole numbers.

### Causes of Infant Deaths

The following table has been compiled on the basis of the Eighth Revision (1965) of the International Classification of Diseases (World Health Organisation).

Infant Mortality: Causes of Death Under One Year

Cause		1971	1972	1973	1974
009	Diarrhoeal diseases	3	2	1	1
036	Meningococcal infection	2	1	1	..
000-008	Other general diseases (a)	3	..	4	3
101-035					
037-315	Meningitis	..	1	..	..
320	Other diseases of the nervous system and sense organs	1	1	..	..
321-389	Diseases of the circulatory system	..	1	1	2
390-458	Acute respiratory infection (except influenza)	5	13	9	2
460-466	Influenza	..	..	..	..
470-474	Pneumonia	37	36	20	5
480-486	Bronchitis, emphysema and asthma	1	..	..	..
490-493	Other diseases of respiratory system	1	..	..	1
500-519	Diseases of the digestive system	..	3	2	1
520-577	Diseases of genito-urinary system	..	..	..	..
580-629	Diseases of skin and subcutaneous tissue	..	..	..	..
630-709	Diseases of musculoskeletal system and connective tissue	..	..	..	..
710-738	Congenital anomalies	14	24	19	18
740-759	Certain maternal conditions	2	2	3	5
760-763	Birth injury, difficult labour and other anoxic and hypoxic conditions	18	18	28	21
764-768	Other causes of perinatal mortality	20	22	32	30
772, 776					
769-771	Symptoms and ill-defined conditions	1	..	(b) 13	(b) 33
773-775	Accidents, poisonings and violence	6	3	4	1
777-779					
780-796					
800-999					
Total		114	127	137	123

(a) Principally infective and parasitic diseases.

(b) Includes sudden death in infancy syndrome (previously included in causes 480-486); 13 in 1973, 33 in 1974.

## Deaths

The following table summarises the number of deaths and crude death rates from 1880 to 1974:

Number of Deaths and Crude Death Rates, Selected Years from 1880

Year	Deaths		Year	Deaths	
	Number	Rate (a)		Number	Rate (a)
1880 .. ..	1 832	16.12	1930.. ..	1 948	8.82
1885 .. ..	2 036	15.94	1935.. ..	2 353	10.24
1890 .. ..	2 118	14.79	1940.. ..	2 387	9.90
1895 .. ..	1 811	11.78	1945.. ..	2 413	9.71
1900 .. ..	1 903	11.02	1950.. ..	2 466	8.85
1905 .. ..	1 844	10.00	1955.. ..	2 489	7.89
1910 .. ..	2 120	11.10	1960.. ..	2 670	(b) 7.70
1915 .. ..	2 015	10.27	1965.. ..	3 043	8.27
1920 .. ..	2 036	9.68	1970.. ..	3 174	8.18
1925 .. ..	1 996	9.26	1974.. ..	3 484	8.68

(a) Per 1 000 of mean population.

(b) Lowest on record.

A marked difference exists between male and female crude death rates:

Male and Female Deaths and Crude Rates

Year	Number of deaths			Deaths per 1 000 of mean population			Ratio of male to female crude death rates
	Males	Females	Persons	Males	Females	Persons	
1964 .. ..	1 797	1 377	3 174	9.76	7.64	8.71	1.277
1965 .. ..	1 716	1 327	3 043	9.24	7.29	8.27	1.267
1966 .. ..	1 726	1 433	3 159	9.21	7.78	8.50	1.184
1967 .. ..	1 790	1 438	3 228	9.45	7.73	8.60	1.223
1968 .. ..	1 906	1 378	3 284	9.96	7.31	8.64	1.363
1969 .. ..	1 876	1 433	3 309	9.67	7.50	8.59	1.289
1970 .. ..	1 785	1 389	3 174	9.13	7.21	8.18	1.266
1971 .. ..	1 805	1 490	3 295	9.17	7.66	8.42	1.197
1972 .. ..	1 793	1 434	3 227	9.08	7.33	8.21	1.239
1973 .. ..	1 894	1 453	3 347	9.51	7.35	8.43	1.304
1974 .. ..	1 954	1 530	3 484	9.72	7.63	8.68	1.277

Australian States: Number of Deaths (a)

Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Australia (b)
1970 .. ..	43 601	30 335	17 055	10 138	7 543	3 174	113 048
1971 .. ..	41 691	30 598	16 339	9 686	7 806	3 295	110 650
1972 .. ..	41 652	29 856	16 598	9 764	7 441	3 227	109 760
1973 .. ..	41 145	30 696	16 920	9 835	7 845	3 347	110 033
1974 <sup>p</sup> .. ..	43 998	30 875	18 136	10 236	7 778	3 484	117 173

(a) Includes deaths of Aborigines.

(b) Includes A.C.T. and N.T.

## Australian States: Crude Death Rates, (a) Census Years

State	1921	1933	1947	1954	1961	1966	1971
New South Wales .. ..	9.50	8.58	9.53	9.46	8.95	9.57	9.04
Victoria .. ..	10.52	9.59	10.44	9.20	8.37	8.90	8.72
Queensland .. ..	9.37	8.83	9.15	8.64	8.42	8.90	8.93
South Australia .. ..	10.02	8.44	9.62	9.02	8.06	8.54	8.23
Western Australia .. ..	10.42	8.64	9.39	8.38	7.77	8.13	7.57
Tasmania .. ..	10.30	9.60	9.17	8.67	7.89	8.50	8.42
Australia (b) .. ..	9.91	8.92	9.69	9.10	8.47	9.01	8.66

(a) Deaths per 1 000 of mean population.

(b) Includes A.C.T. and N.T.

## Death Rates for Specific Age Groups

Previously in this chapter, crude death rates were described as unsuitable for comparisons over long periods of time due to changes in the age structure of the community. In the following table, this difficulty is overcome by calculating death rates for specific age groups. The method employed is to obtain the average annual deaths for specific age groups over those three-year periods which are broken into equal parts by a census of population (e.g. 30 June 1947 is the census date for a calculation of rates in the three years, 1946-1948 inclusive). Rates can then be calculated by comparing the average number of deaths for each group with the number of persons in each group as revealed by the census. In theory, the calculation of such rates need not be restricted to periods for which a census date forms the midpoint but the advantage of accepting such restriction lies in the accuracy of the age distribution obtained from the census. In the table, three-year periods have been selected appropriate to the censuses of 1947 and 1971 (the data relate to the Tasmanian population):

## Death Rates for Specific Age Groups (a)

Age group (years)	Males		Females		Persons	
	1946-48	1970-72	1946-48	1970-72	1946-48	1970-72
0-4 .. ..	9.13	4.46	7.24	2.93	8.21	3.71
5-9 .. ..	1.15	0.47	0.69	0.36	0.92	0.42
10-14 .. ..	0.67	0.56	0.39	0.30	0.53	0.43
15-19 .. ..	1.62	2.42	1.46	0.60	1.54	1.53
20-24 .. ..	2.10	2.10	1.79	0.53	1.94	1.96
25-29 .. ..	2.12	1.87	1.74	0.83	1.93	1.37
30-34 .. ..	2.27	1.84	1.90	0.79	2.09	1.33
35-39 .. ..	3.10	2.10	2.59	1.34	2.85	1.73
40-44 .. ..	3.93	3.43	3.51	1.89	3.73	2.69
45-49 .. ..	5.88	5.36	4.66	3.10	5.28	4.25
50-54 .. ..	9.52	9.65	7.84	5.79	8.65	7.74
55-59 .. ..	16.98	15.77	10.03	8.26	13.44	12.06
60-64 .. ..	23.87	25.71	17.30	12.82	20.53	19.19
65-69 .. ..	41.82	41.10	27.35	22.40	34.56	31.51
70-74 .. ..	58.43	64.05	49.47	37.51	53.80	48.92
75-79 .. ..	103.22	94.96	77.00	62.46	89.78	74.91
80-84 .. ..	156.64	140.11	123.49	99.45	138.41	114.30
85 and over .. ..	292.36	220.56	220.32	204.67	250.16	210.54

(a) Rate per 1 000 of the population in the specified age group at census date.

## Causes of Death

The Eighth (1965) Revision of the International Classification of Diseases was adopted for use in 1968 but has not materially affected comparability with details based on the Seventh Revision (1955). The next table shows causes of deaths, the rates per 100 000 of mean population and the proportion of deaths from each cause.

In 1974, diseases of the heart (items (25) to (29)) accounted for 1 164 deaths out of the total of 3 484 deaths. The comparable figures for 1973 were 1 158 deaths out of the total of 3 347 deaths. Other major causes of death in 1974 (with 1973 figures in brackets) were: cancer, all forms (item (19)), 615 (571); cerebrovascular disease, 415 (448); motor vehicle accidents, 125 (118); and all other accidents, 126 (86).

Causes of Death: Numbers and Rates, 1974

Cause of death	International classification	Number of deaths	Rate per 100 000 of mean population	Percentage of total deaths
0-4. (a) .. .. .	(a)	8	2	0.2
5. Tuberculosis of respiratory system .. .. .	010-012	5	1	0.1
6. Other tuberculosis including late effects .. .. .	013-019	6	1	0.2
7-16. (b) .. .. .	(b)	..	..	..
17. Syphilis and its sequelae .. .. .	090-097	2	1	0.1
18. All other infective and parasitic diseases .. .. .	(c)	4	1	0.1
19. Malignant neoplasms—				
Digestive organs and peritoneum .. .. .	150-159	208	52	6.0
Trachea, bronchus and lung .. .. .	162	111	28	3.2
Breast .. .. .	174	47	12	1.3
Genito-urinary organs .. .. .	180-189	111	28	3.2
Leukaemia .. .. .	204-207	22	5	0.6
Other malignant and lymphatic neoplasms .. .. .	(d)	116	29	3.3
20. Benign and unspecified neoplasms .. .. .	210-239	3	1	0.1
21. Diabetes mellitus .. .. .	250	61	15	1.7
22. Nutritional deficiencies .. .. .	260-269	4	1	0.1
23. Anaemias .. .. .	280-285	11	3	0.3
24. Meningitis .. .. .	320	1	..	..
25. Active rheumatic fever .. .. .	390-392	..	..	..
26. Chronic rheumatic heart disease .. .. .	393-398	32	8	0.9
27. Hypertensive disease .. .. .	400-404	37	9	1.1
28. Ischaemic heart disease .. .. .	410-414	946	236	27.2
29. Other forms of heart disease .. .. .	420-429	149	37	4.3
30. Cerebrovascular disease .. .. .	430-438	415	103	11.9
31. Influenza .. .. .	470-474	9	2	0.3
32. Pneumonia .. .. .	480-486	96	24	2.8
33. Bronchitis, emphysema and asthma .. .. .	490-493	188	47	5.4
34. Peptic ulcer .. .. .	531-533	21	5	0.6
35. Appendicitis .. .. .	540-543	3	1	0.1
36. Intestinal obstruction and hernia .. .. .	550-553	6	1	0.2
	560	7	2	0.2
37. Cirrhosis of liver .. .. .	571	24	6	0.7
38. Nephritis and nephrosis .. .. .	580-584	28	7	0.8
39. Hyperplasia of prostate .. .. .	600	11	3	0.3
40. Abortion .. .. .	640-645	..	..	..
41. { Other complications of pregnancy, childbirth and the puerperium. Delivery without mention of complication .. .. .	630-639	..	..	..
	650-678	1	..	..
42. Congenital anomalies .. .. .	740-759	27	7	0.8
43. { Birth injury, difficult labour and other anoxic and hypoxic conditions .. .. .	764-768	2	1	0.1
	772-776	20	5	0.6



## Causes of Death: Numbers and Rates, 1974—continued

Cause of death	Inter-national classification	Number of deaths	Rate per 100 000 of mean population	Percentage of total deaths
44. Other causes of perinatal mortality .. ..	{ 760-763 769-771 773-775 777-779	5 25 1 4	1 6 .. 1	0.1 0.7 .. 0.1
45. Symptoms and other ill-defined conditions ..	780-796	54	13	1.5
46. All other diseases .. .. .	{ Remainder of 240-738	347	86	10.0
47. Motor vehicle accidents .. .. .	810-823	125	31	3.6
48. All other accidents .. .. .	{ 800-807 825-949	1 125	.. 31	.. 3.6
49. Suicide and self-inflicted injuries .. ..	950-959	52	13	1.5
50. All other external causes .. .. .	960-999	3	1	0.1
All Causes .. .. .	..	3 484	868	100.0

(a) 000-009. (See following text for specification of diseases.)

(b) 020, 032, 033, 034, 036, 040-043, 050, 055, 080-084. (See following text for specification of diseases.)

(c) 021-027, 030, 031, 035, 037, 038, 039, 044-046, 051-054, 056, 057, 060-068, 070-079, 085-089, 098-117, 120-136.

(d) 140-149, 160, 161, 163, 170-173, 190-203, 208, 209.

It will be noted that items 0-4 and 7-16 in the table were not listed individually, few associated deaths having been recorded. The specification of causes reads: (1) cholera; (2) typhoid fever; (3) dysentery, all forms; (4) enteritis and other diarrhoeal diseases; (7) plague; (8) diphtheria; (9) whooping cough; (10) streptococcal sore throat and scarlet fever; (11) meningococcal infection; (12) acute poliomyelitis; (13) small pox; (14) measles; (15) typhus and other rickettsial diseases; (16) malaria. Uncertainty as to diagnosis in earlier periods makes comparison difficult but, at the turn of the century, whooping cough, diphtheria, typhoid fever and scarlet fever were diseases associated with numerous deaths.

### Causes of Death in Age Groups

The previous tables showing causes of death make no reference to age, a complete dissection by age and cause being beyond the scope of a *Year Book*. Nevertheless, there is an extremely significant relationship between age and cause of death and the next table indicates, in summary form, their close inter-connection. For each of the specified causes in the next table, two percentages are shown: (i) deaths in a particular age group as a proportion of total deaths from all causes in that age group; (ii) deaths in a particular age group as a proportion of total deaths from the same cause at all ages. The causes chosen and specified are such that they account, in total, for approximately 75 per cent or more of deaths in most of the given age groups.

Attention is called to 'Accidental and violent deaths' (800-999) which account for over 63 per cent of deaths in the ages from 1 to 34 years inclusive. Also noteworthy is the present relative unimportance of 'Infective and parasitic diseases' (001-136). The most important group, in a total sense, is 'Diseases of the heart' (390-398, 400-404, 410-429) followed by 'Cancer (all forms)' (140-209); then 'Cerebrovascular diseases' (430-438); and 'Diseases of the respiratory system' (460-519). Nevertheless, the inter-connection between age and cause of death is so close that none of these causes needs to be specified for some age groups in the table.

## Principal Causes of Death in Age Groups, 1974

Age group in years	Inter- national classifi- cation	Cause of death	Deaths from specified causes in age groups		
			Number	Proportion of deaths	
				In age group (per cent)	At all ages (per cent)
Under 1 ..	460-519	Diseases of respiratory system ..	8	6.6	2.6
	776	Anoxic and hypoxic conditions ..	18	14.6	100.0
	740-759	Congenital anomalies ..	18	14.6	66.7
	795	Sudden death in infancy ..	33	26.8	97.1
	777	Immaturity unqualified ..	3	2.4	100.0
	..	Other causes ..	43	35.0	..
		All causes ..	123	100.0	3.5
1-4 ..	800-999	Accidental and violent deaths ..	10	47.6	3.3
	740-759	Congenital anomalies ..	3	14.3	11.1
	140-209	Cancer (all forms) (a) ..	1	4.8	0.2
	..	Other causes ..	7	33.3	..
		All causes ..	21	100.0	0.6
5-14 ..	800-999	Accidental and violent deaths ..	18	52.9	5.9
	140-209	Cancer (all forms) (a) ..	7	20.6	1.1
	740-759	Congenital anomalies ..	2	5.9	7.4
	..	Other causes ..	7	20.6	..
		All causes ..	34	100.0	0.9
15-19 ..	800-999	Accidental and violent deaths ..	46	79.3	15.0
	140-209	Cancer (all forms) (a) ..	4	6.9	0.7
	..	Other causes ..	8	13.8	..
		All causes ..	58	100.0	1.7
20-24 ..	800-999	Accidental and violent deaths ..	36	73.5	11.7
	..	Other causes ..	13	26.5	..
		All causes ..	49	100.0	1.4
25-34 ..	800-999	Accidental and violent deaths ..	32	52.5	10.4
	140-209	Cancer (all forms) (a) ..	4	6.6	0.7
	390-398	Diseases of heart ..	6	9.8	0.5
	400-404				
	410-429	Other causes ..	19	31.1	..
	..	All causes ..	61	100.0	1.8
35-44 ..	800-999	Accidental and violent deaths ..	27	25.2	8.8
	140-209	Cancer (all forms) (a) ..	26	24.3	4.2
	390-398	Diseases of heart ..	19	17.8	1.6
	400-404				
	410-429				
	430-438	Cerebrovascular diseases ..	10	9.4	2.4
	460-519	Diseases of respiratory system ..	1	0.9	0.3
	..	Other causes ..	24	22.4	..
		All causes ..	107	100.0	3.1

## Principal Causes of Death in Age Groups, 1974—continued

Age group in years	Inter- national classification	Cause of death	Deaths from specified causes in age groups		
			Number	Proportion of deaths	
				In age group (per cent)	At all ages (per cent)
45-54 ..	390-398	} Diseases of heart .. .. .	89	31.6	7.6
	400-404				
	410-429				
	140-209				
	800-999				
	430-438				
	460-519				
	..	Other causes .. .. .	47	16.7	..
		All causes .. .. .	282	100.0	8.1
55-64 ..	390-398	} Diseases of heart .. .. .	240	42.4	20.6
	400-404				
	410-429				
	140-209				
	430-438				
	460-519				
	800-999				
	571	Accidental and violent deaths .. .. .	30	5.3	9.8
	..	Cirrhosis of liver .. .. .	5	0.9	20.1
		Other causes .. .. .	53	9.3	..
		All causes .. .. .	566	100.0	16.2
65-74 ..	390-398	} Diseases of heart .. .. .	315	38.8	27.1
	400-404				
	410-429				
	140-209				
	430-438				
	460-519				
	440-448				
	250	Diseases of arteries .. .. .	25	3.1	16.8
	..	Diabetes .. .. .	15	1.8	24.6
		Other causes .. .. .	100	12.3	..
		All causes .. .. .	812	100.0	23.3
75 and over..	390-398	} Diseases of heart .. .. .	493	36.0	42.4
	400-404				
	410-429				
	430-438				
	140-209				
	440-448				
	460-519				
	250	Diseases of respiratory system .. .. .	137	10.0	44.2
	..	Diabetes .. .. .	32	2.3	52.5
		Other causes .. .. .	187	13.7	..
		All causes .. .. .	1 371	100.0	39.4

(a) Includes Hodgkin's disease and the leukaemias.

*Heart Diseases*

As the previous two tables indicate, heart diseases (list items 390-398, 400-404, 410-429) are the greatest single cause of death. In the following record of deaths due to heart diseases, 1950 has been chosen as a starting point since earlier figures are not strictly comparable. It can be seen from the table that heart diseases account for one third of the 'Deaths from all causes'.

## Deaths from Heart Diseases (All Causes) (a)

Year	Number of deaths			Death rate per 100 000 of mean population	Deaths as a percentage of deaths from all causes
	Males	Females	Persons		
1950 .. .. .	413	304	717	257	29.1
1969 .. .. .	701	483	1 184	308	35.8
1970 .. .. .	681	454	1 135	292	35.8
1971 .. .. .	647	491	1 138	291	34.5
1972 .. .. .	619	474	1 093	278	33.9
1973 .. .. .	700	458	1 158	292	34.6
1974 .. .. .	661	503	1 164	290	33.4

(a) List items 400-416, 420-443 in 1950; 390-398, 400-404, 410-429 from 1968.

*Malignant Neoplasms*

In the next table, deaths from 'Malignant neoplasms including Hodgkin's disease and the leukaemias' (cancer, all forms) are summarised:

## Deaths from all Types of Malignant Neoplasms (a)

Year	Number of deaths			Death rate per 100 000 of mean population	Deaths as a percentage of deaths from all causes
	Males	Females	Persons		
1950 .. .. .	159	164	323	115	13.1
1969 .. .. .	282	228	510	132	15.4
1970 .. .. .	253	229	482	124	15.2
1971 .. .. .	284	268	552	141	16.8
1972 .. .. .	278	270	548	139	17.0
1973 .. .. .	312	259	571	144	17.1
1974 .. .. .	339	276	615	153	17.7

(a) List items 140-207 in 1950; 140-209 from 1968.

*Lung Cancer*

Considerable interest has been shown in lung cancer recently because of its suspected connection with smoking habits. The following table shows deaths attributed to 'Malignant neoplasm of respiratory system' for 1950 and from 1960:

## Deaths from Malignant Neoplasm of Respiratory System (a)

Year	Males	Females	Persons	Year	Males	Females	Persons
1950 .. ..	20	4	24	1967 ..	78	9	87
1960 .. ..	40	3	43	1968 ..	69	12	81
1961 .. ..	47	3	50	1969 ..	85	11	96
1962 .. ..	70	8	78	1970 ..	72	19	91
1963 .. ..	44	9	53	1971 ..	76	18	94
1964 .. ..	51	16	67	1972 ..	78	13	91
1965 .. ..	60	11	71	1973 ..	75	8	83
1966 .. ..	76	16	92	1974 ..	103	13	116

(a) List items 160-165 to 1967; 160-163 from 1968.

## EXPECTATION OF LIFE AND LIFE TABLES

### General

Previously, reference was made to the limitations of crude death rates as a measure of mortality. However, a correct measurement of the mortality of the population can be obtained from life tables.

A life table is, in effect, a mathematical model, its starting point being a hypothetical population (say 100 000) of newly-born males or females. Using data for a given period (e.g. single year age distribution of an actual population, deaths at single ages, etc.), the compiler calculates the theoretical number of survivors at each age in the hypothetical population until there are no survivors remaining.

### Calculation of Life Expectancy

In the table that follows,  $l_x$  is the number of persons surviving at exact age  $x$ . From this survivors' table, other measures can then be computed, namely:

- $L_x$ : the average number living between any year  $x$  and  $x + 1$
- $e^o_x$ : the complete expectation of life (i.e. the average number of years lived after age  $x$  by each of a group of persons aged exactly  $x$ ).

Not only does the  $l_x$  column give numbers of survivors at each age but, if accumulated, it gives an approximate measure of the total number of years lived by the life-table population. To obtain a more refined measure of the total number of years lived, it is necessary to accumulate  $L_x$  values. These can be obtained by averaging each consecutive pair of  $l_x$  values.

Taking the male life table for 1965-67 as an example and using rounded figures:

Total of all $l_x$ values (for $x = 0, 1, \dots, 104$ )	= 6 813 000 years
Total of all $l_x$ values (for $x = 1, 2, \dots, 105$ )	= 6 713 000 years
Therefore, total $L_x$ values (for $x = 1, 2, \dots, 104$ )	= 6 763 000 years

According to the table, 100 000 males live a total of 6 763 000 years. It follows then, that the complete expectation of life ( $e^o_x$ ) can be taken as 67.63 years as from birth.

The above calculation shows the derivation of  $e^o_x$  where  $x$  is 0. The same logic applies to all other ages:

Again taking the male life table as an example:

Total of $l_x$ values ( $x = 10, 11, \dots, 104$ )	= 5 835 000 years
Total of all $l_x$ values ( $x = 11, 12, \dots, 105$ )	= 5 738 000 years
Therefore, total $L_x$ values ( $x = 10, 11, \dots, 104$ )	= 5 786 500 years

According to the table, 97 258 males live a total of a further 5 786 500 years. It follows then, that each male aged 10 has an average life expectancy of a further 59.50 years.

$$\left( \text{i.e. } \frac{5\,786\,500}{97\,258} \right)$$

From these examples, it will be seen that  $e^o_x$  is simply an average or per capita figure, the two elements involved being the total number of years lived by a given population, and the given population itself.

For the sake of brevity, the following usual values have not been given in the table:

$d_x$ ; the number of deaths in the year of age  $x$  to  $x + 1$  among the  $l_x$  persons who enter on that year.

$p_x$ ; the probability of a person aged  $x$  living a year.

$q_x$ ; the probability of a person aged  $x$  dying within a year.

If required, these values can be computed from the tables as follows:

$$d_x = l_x - l_{x+1}$$

$$p_x = \frac{l_{x+1}}{l_x}$$

$$\text{and } q_x = 1 - p_x$$

The next table gives the number of survivors ( $l_x$  values) and complete expectation of life ( $e^o_x$  values) for Australian males:

Australia: Life Tables, 1965-1967  
Survivors ( $l_x$ ) and Complete Expectation of Life ( $e^o_x$ )  
Males

Age $x$	$l_x$	$e^o_x$	Age $x$	$l_x$	$e^o_x$	Age $x$	$l_x$	$e^o_x$
0 .. ..	100 000	67.63	35.. ..	94 056	36.04	70.. ..	53 749	9.52
1 .. ..	97 907	68.07	36.. ..	93 865	35.11	71.. ..	50 785	9.05
2 .. ..	97 722	67.20	37.. ..	93 658	34.18	72.. ..	47 746	8.59
3 .. ..	97 621	66.27	38.. ..	93 435	33.27	73.. ..	44 647	8.15
4 .. ..	97 540	65.32	39.. ..	93 191	32.35	74.. ..	41 510	7.73
5 .. ..	97 481	64.36	40.. ..	92 925	31.44	75.. ..	38 358	7.33
6 .. ..	97 430	63.39	41.. ..	92 636	30.54	76.. ..	35 214	6.93
7 .. ..	97 383	62.42	42.. ..	92 321	29.64	77.. ..	32 102	6.56
8 .. ..	97 339	61.45	43.. ..	91 976	28.75	78.. ..	29 046	6.20
9 .. ..	97 298	60.48	44.. ..	91 598	27.87	79.. ..	26 070	5.85
10 .. ..	97 258	59.50	45.. ..	91 183	26.99	80.. ..	23 194	5.51
11 .. ..	97 219	58.53	46.. ..	90 727	26.12	81.. ..	20 431	5.19
12 .. ..	97 180	57.55	47.. ..	90 226	25.27	82.. ..	17 801	4.88
13 .. ..	97 138	56.57	48.. ..	89 674	24.42	83.. ..	15 320	4.59
14 .. ..	97 092	55.60	49.. ..	89 066	23.58	84.. ..	13 008	4.32
15 .. ..	97 034	54.63	50.. ..	88 396	22.76	85.. ..	10 885	4.07
16 .. ..	96 958	53.68	51.. ..	87 659	21.94	86.. ..	8 967	3.83
17 .. ..	96 857	52.73	52.. ..	86 849	21.14	87.. ..	7 268	3.61
18 .. ..	96 722	51.80	53.. ..	85 961	20.36	88.. ..	5 792	3.41
19 .. ..	96 560	50.89	54.. ..	84 988	19.58	89.. ..	4 535	3.22
20 .. ..	96 378	49.98	55.. ..	83 925	18.83	90.. ..	3 486	3.05
21 .. ..	96 191	49.08	56.. ..	82 766	18.08	91.. ..	2 629	2.88
22 .. ..	96 013	48.17	57.. ..	81 506	17.35	92.. ..	1 944	2.73
23 .. ..	95 846	47.25	58.. ..	80 136	16.64	93.. ..	1 408	2.59
24 .. ..	95 689	46.33	59.. ..	78 650	15.95	94.. ..	998	2.45
25 .. ..	95 544	45.40	60.. ..	77 043	15.27	95.. ..	692	2.33
26 .. ..	95 405	44.47	61.. ..	75 307	14.61	96.. ..	468	2.21
27 .. ..	95 266	43.53	62.. ..	73 439	13.97	97.. ..	310	2.11
28 .. ..	95 126	42.59	63.. ..	71 433	13.35	98.. ..	200	2.01
29 .. ..	94 986	41.66	64.. ..	69 289	12.74	99.. ..	126	1.91
30 .. ..	94 845	40.72	65.. ..	67 008	12.16	100 ..	77	1.82
31 .. ..	94 703	39.78	66.. ..	64 594	11.60	101 ..	46	1.74
32 .. ..	94 554	38.84	67.. ..	62 052	11.05	102 ..	27	1.65
33 .. ..	94 399	37.90	68.. ..	59 393	10.52	103 ..	15	1.57
34 .. ..	94 233	36.97	69.. ..	56 623	10.01	104 ..	8	1.49

The following table shows the  $l_x$  and  $e^o_x$  values for Australian females:

**Australia: Life Tables, 1965-1967**  
Survivors ( $l_x$ ) and Complete Expectation of Life ( $e^o_x$ )  
Females

Age $x$	$l_x$	$e^o_x$	Age $x$	$l_x$	$e^o_x$	Age $x$	$l_x$	$e^o_x$
0 .. ..	100 000	74.15	35.. ..	96 329	41.56	70.. ..	72 033	12.23
1 .. ..	98 361	74.39	36.. ..	96 210	40.61	71.. ..	69 886	11.59
2 .. ..	98 206	73.50	37.. ..	96 080	39.66	72.. ..	67 574	10.97
3 .. ..	98 127	72.56	38.. ..	95 937	38.72	73.. ..	65 098	10.37
4 .. ..	98 068	71.60	39.. ..	95 781	37.78	74.. ..	62 459	9.78
5 .. ..	98 018	70.64	40.. ..	95 610	36.85	75.. ..	59 657	9.22
6 .. ..	97 977	69.67	41.. ..	95 424	35.92	76.. ..	56 693	8.67
7 .. ..	97 942	68.70	42.. ..	95 221	35.00	77.. ..	53 567	8.15
8 .. ..	97 910	67.72	43.. ..	94 999	34.08	78.. ..	50 281	7.65
9 .. ..	97 882	66.74	44.. ..	94 755	33.16	79.. ..	46 845	7.17
10 .. ..	97 856	65.75	45.. ..	94 486	32.26	80.. ..	43 281	6.72
11 .. ..	97 830	64.77	46.. ..	94 191	31.35	81.. ..	39 619	6.30
12 .. ..	97 806	63.79	47.. ..	93 866	30.46	82.. ..	35 902	5.90
13 .. ..	97 781	62.80	48.. ..	93 508	29.58	83.. ..	32 176	5.52
14 .. ..	97 755	61.82	49.. ..	93 117	28.70	84.. ..	28 496	5.17
15 .. ..	97 723	60.84	50.. ..	92 693	27.83	85.. ..	24 913	4.85
16 .. ..	97 682	59.86	51.. ..	92 233	26.96	86.. ..	21 480	4.54
17 .. ..	97 636	58.89	52.. ..	91 736	26.11	87.. ..	18 244	4.26
18 .. ..	97 582	57.93	53.. ..	91 201	25.26	88.. ..	15 251	4.00
19 .. ..	97 521	56.96	54.. ..	90 625	24.41	89.. ..	12 536	3.76
20 .. ..	97 460	56.00	55.. ..	90 005	23.58	90.. ..	10 124	3.53
21 .. ..	97 398	55.03	56.. ..	89 340	22.75	91.. ..	8 027	3.33
22 .. ..	97 335	54.07	57.. ..	88 627	21.93	92.. ..	6 246	3.14
23 .. ..	97 273	53.10	58.. ..	87 861	21.12	93.. ..	4 766	2.97
24 .. ..	97 211	52.14	59.. ..	87 038	20.31	94.. ..	3 564	2.81
25 .. ..	97 148	51.17	60.. ..	86 152	19.52	95.. ..	2 611	2.66
26 .. ..	97 085	50.20	61.. ..	85 195	18.73	96.. ..	1 872	2.52
27 .. ..	97 020	49.23	62.. ..	84 162	17.95	97.. ..	1 313	2.38
28 .. ..	96 952	48.27	63.. ..	83 043	17.19	98.. ..	900	2.26
29 .. ..	96 880	47.30	64.. ..	81 829	16.43	99.. ..	602	2.15
30 .. ..	96 803	46.34	65.. ..	80 513	15.70	100 ..	393	2.04
31 .. ..	96 721	45.38	66.. ..	79 085	14.97	101 ..	250	1.93
32 .. ..	96 633	44.42	67.. ..	77 534	14.26	102 ..	155	1.84
33 .. ..	96 539	43.46	68.. ..	75 850	13.56	103 ..	94	1.74
34 .. ..	96 438	42.51	69.. ..	74 019	12.89	104 ..	55	1.64

These tables are extracts from those produced by the Commonwealth Actuary, the source data being supplied by the Commonwealth Statistician and comprising: (i) the number of males and females living at each age last birthday, as shown by the 1966 Census; and (ii) the number of male and female deaths at each age (last birthday) in the years 1965, 1966 and 1967.

There are no life tables prepared on the basis of Tasmanian experience and in most legal and actuarial situations, it is normal to use the Australian Life Tables.

### True Death Rates

The true death rate is the reciprocal of the complete expectation of life of a person at birth. In calculating  $e^o_x$  where  $x$  is 0, the sum of the  $L_x$  values was taken as the total number of years lived by the original 100 000 over a period of a century or more. To arrive at the true death rate, the life table can also be regarded as the experience

of a *single year* so that the sum of the  $L_x$  values no longer represents years lived but simply persons 'at risk' in association with 100 000 deaths. By way of illustration, in the male life table the sum of all survivors ( $L_x$  values) is 6 763 000 males associated with 100 000 deaths:

$$\text{True Death Rate} = \frac{100\,000}{6\,763\,000} = 14.786 \text{ per } 1\,000$$

The true death rate for a given period is unaffected by the particular age distribution of that period, and is determined solely by the mortality experience of the period as manifested in the rate of survival from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by the Australian life tables:

**Australia: Complete Expectation of Life at Birth and True Death Rates**

Period	Complete expectation of life at birth (years)		True death rate (a)	
	Males	Females	Males	Females
1881-1890 .. .. .	47.20	50.84	21.19	19.67
1891-1900 .. .. .	51.06	54.76	19.58	18.26
1901-1910 .. .. .	55.20	58.84	18.12	17.00
1920-1922 .. .. .	59.15	63.31	16.91	15.80
1932-1934 .. .. .	63.48	67.14	15.75	14.89
1946-1948 .. .. .	66.07	70.63	15.14	14.16
1953-1955 .. .. .	67.14	72.75	14.89	13.75
1960-1962 .. .. .	67.92	74.18	14.72	13.48
1965-1967 .. .. .	67.63	74.15	14.79	13.49

(a) Number of deaths per 1 000 in stationary (or life-table) population.

While the complete expectation of life at birth has shown a marked increase in successive tables, the increase at other ages has not been so pronounced. The following table compares the complete expectation of life at selected ages for the period 1891-1900 with that for 1965-67:

**Australia: Comparative Complete Expectation of Life**

Age x	Expectation of life ( $e^o_x$ ) at each age according to experience of period			
	Male lives		Female lives	
	1891-1900	1965-1967	1891-1900	1965-1967
0 .. .. .	51.06	67.63	54.76	74.15
5 .. .. .	55.61	64.36	58.64	70.64
10 .. .. .	51.43	59.50	54.46	65.75
15 .. .. .	46.98	54.63	49.97	60.84
20 .. .. .	42.81	49.98	45.72	56.00
25 .. .. .	38.90	45.40	41.69	51.17
30 .. .. .	35.11	40.72	37.86	46.34
35 .. .. .	31.34	36.04	34.14	41.56
40 .. .. .	27.65	31.44	30.49	36.85
45 .. .. .	23.99	26.99	26.69	32.26
50 .. .. .	20.45	22.76	22.93	27.83
55 .. .. .	17.08	18.83	19.29	23.58
60 .. .. .	13.99	15.27	15.86	19.52
65 .. .. .	11.25	12.16	12.75	15.70
70 .. .. .	8.90	9.52	9.89	12.23
75 .. .. .	6.70	7.33	7.37	9.22
80 .. .. .	5.00	5.51	5.49	6.72



It will be noted that  $e^{\circ}_x$  for age five years in the period 1891-1900 was actually higher than for age 0 years. This peculiarity was associated with the extremely high rate of infant mortality then prevailing.

### Number of Life Table Survivors

The following table shows the number of survivors (i.e.  $l_x$  values) at various ages as presented in Australian Life Tables since 1901 (i.e. for the periods 1901-1910, 1953-1955, 1960-1962 and 1965-1967).

Australia: Number of Survivors ( $l_x$ ) at Selected Ages out of 100 000 Births

Age $x$	Period			
	1901-1910	1953-1955	1960-1962	1965-1967
MALES				
0 .. .. .	100 000	100 000	100 000	100 000
10 .. .. .	86 622	96 488	97 062	97 258
20 .. .. .	84 493	95 460	96 215	96 378
30 .. .. .	80 844	93 801	94 726	94 845
40 .. .. .	75 887	91 861	92 859	92 925
50 .. .. .	68 221	87 553	88 473	88 396
60 .. .. .	56 782	76 256	77 456	77 043
70 .. .. .	38 275	54 054	54 944	53 749
80 .. .. .	14 330	23 658	24 669	23 194
FEMALES				
0 .. .. .	100 000	100 000	100 000	100 000
10 .. .. .	88 395	97 228	97 664	97 856
20 .. .. .	86 459	96 774	97 278	97 460
30 .. .. .	82 909	96 055	96 649	96 803
40 .. .. .	78 001	94 715	95 481	95 610
50 .. .. .	71 945	91 573	92 713	92 693
60 .. .. .	63 247	84 665	86 537	86 152
70 .. .. .	46 793	69 613	72 505	72 033
80 .. .. .	21 356	39 633	43 453	43 281

The most significant feature is the increased number of survivors at age 10 years and this can be related directly to the dramatic fall in infant mortality rates since the turn of the century. Attention is called also to the wide disparity between male and female survivors at ages 60, 70 and 80 years.

## Chapter 7

### LAND USE AND AGRICULTURE

#### LAND TENURE AND SETTLEMENT

##### Introduction

The area of Tasmania is 6 833 000 hectares, all of which had been proclaimed as Crown property when the first settlers arrived in 1803. In the period since their landing 40.0 per cent of the State's total area has been alienated by grant or sale; the Crown still owns 58.0 per cent and the residual 2.0 per cent is in the process of alienation (i.e. being purchased from the Crown by instalment payments).

##### Historical

The first concern of the settlers on the Derwent and the Tamar in 1804 was the growing of grain, for which small holdings were adequate; thus by 1820, land obtained as grants from the Crown was confined to areas within easy reach of Hobart and Launceston and less than 28 500 hectares had been alienated.

In the 1820's the successful export of wool to Britain created a demand for land in very much larger holdings and annual alienation of Crown land by free grant increased rapidly as shown in the following table:

Area of Land Alienated by Grants in Van Diemen's Land, 1820 to 1843  
(<sup>'000 Hectares</sup>)

Year	Area granted	Year	Area granted	Year	Area granted	Year	Area granted
1820 ..	} 28	1826 ..	24	1832 ..	13	1838 ..	18
1821 ..		1827 ..	31	1833 ..	10	1839 ..	6
1822 ..	<i>n.a.</i>	1828 ..	67	1834 ..	4	1840 ..	4
1823 ..	176	1829 ..	84	1835 ..	4	1841 ..	3
1824 ..	17	1830 ..	44	1836 ..	3	1842 ..	..
1825 ..	(a)187	1831 ..	83	1837 ..	9	1843 ..	..

(a) Includes 142 000 hectares granted to Van Diemen's Land Company.

From the previous table, it can be calculated that the alienation of Crown land by grant exceeded, in total, half a million hectares by 1828 and 800 000 hectares by 1840 (when this early system of free grants had virtually ceased). By 1850 the total area of land alienated was 1.09 million hectares. The next table summarises land alienations from 1860:

**Land Alienations from 1860**  
(<sup>'000 Hectares</sup>)

Year (a)	Land		Year (a)	Land	
	Aggregate alienated	In process of alienation		Aggregate alienated	In process of alienation
1860 .. ..		1 242	1960 .. ..	2 584	77
1880 .. ..		1 713	1965 .. ..	2 679	83
1900 .. ..		1 957	1969 .. ..	2 693	96
1910 .. ..	1 996	447	1970 .. ..	2 697	100
1920 .. ..	2 121	390	1971 (b) .. ..	2 697	100
1930 .. ..	2 315	219	1972 (b) .. ..	2 697	100
1940 .. ..	2 393	171	1973 (b) .. ..	2 729	133
1950 .. ..	2 486	148	1974 (b) .. ..	2 731	135

(a) At 31 December until 1948; at 30 June from 1950.

(b) Estimates only.

**Present Use of Crown Lands**

The next table classifies the area of the State by ownership (i.e. alienated or Crown). Crown forestry reservations, apart from one component, is land used or to be used exclusively for forestry purposes; the exception is the forested area of recreation and conservation reservations. The forestry reservations account for 30 per cent of the State's area.

**Alienation and Occupation of Crown Lands at 30 June**  
(<sup>'000 Hectares</sup>)

Classification of land	Area		
	1972	1973	1974
Alienated (aggregate) (a) .. .. .	2 697	2 729	2 731
In process of alienation (a) .. .. .	100	133	135
Crown lands—			
Leased or licensed—			
Through Lands Department (a)—			
Pastoral .. .. .	235	200	188
Closer settlement .. .. .	12	12	12
Soldier settlement .. .. .			
Short-term .. .. .			
Through Mines Department .. .. .	27	(b) 36	(b) 36
Total .. .. .	274	248	236
Forestry reservations (c)—			
State forests .. .. .	1 148	1 199	1 345
Other land reserved for forestry purposes (d) .. .. .	1 115	r 795	686
Total (c) .. .. .	2 263	r 1 994	2 030
Other Crown land .. .. .	1 497	r 1 729	1 701
Total area of State .. .. .	6 833	6 833	6 833

(a) Estimates only.

(b) Includes a small area of private land leased through the Mines Department.

(c) Includes areas under pulpwood concessions and exclusive forest permits; 1 789 000 ha at 30 June 1974 (see table in chapter 8 for further details).

(d) Includes estimated forested component of State reserves.

The previous table includes the item 'Forestry reservations'. Cutting rights, either by exclusive forestry permit or by the award of pulpwood concessions, have been granted for just over 1.8m hectares of this area. A large proportion of the logs for sawmills, paper mills, etc. is obtained from these forestry reservations. Further details of Crown land reserved for forestry appear in the Forestry section of chapter 8, 'Forestry, Mining and Fisheries'.

Although the possibility of rapidly alienating more Crown land for farming purposes on any large scale may seem remote, it should be noted that much of this land is nevertheless of importance to the State's economy, specifically for forestry and tourism purposes.

### State Reserves and Conservation Areas

The National Parks and Wildlife Service is responsible for the administration of State reserves and conservation areas. Areas designated as State reserves have maximum protection and include areas classified as national parks, scenic reserves or historic sites. Conservation areas are usually set aside for the protection of fauna and flora.

#### *State Reserves*

The following gives a brief description of principal State reserves:

*Ben Lomond National Park:* Is located 45 kilometres south-east of Launceston. This high plateau area includes Legges Tor and is Tasmania's principal skiing area.

*Cradle Mountain-Lake St Clair National Park:* This is an area of rugged mountain scenery; it contains some of Tasmania's highest peaks (Mt Ossa, Barn Bluff, Mt Pelion West and Cradle Mountain), numerous lakes, deep gorges and several waterfalls. Flora and fauna in the park are representative of Tasmania's montane species and are in a largely untouched condition. The weather of the area is unpredictable and at times extremely severe—blizzards are common and may occur in mid-summer. The principal walking track extends from Cradle Valley (in the north) to Lake St Clair, a distance of 85 kilometres.

*Frenchmans Cap National Park:* The park boundary is three kilometres from the Lyell Highway and about midway between Queenstown and Derwent Bridge. Access to the park is by foot. It is an area of rugged glaciated landscape and is an ideal wilderness area for experienced bushwalkers. Frenchmans Cap, an enormous white quartz peak with a 300 metre face on the eastern side, is the principal feature of the park.

*Freycinet National Park:* Occupies the whole of Freycinet Peninsula on the east coast. A principal feature of the park is the 300 metres high red granite Hazards. The park provides pleasant walking throughout the year, although during summer water may be scarce. To the south of Freycinet Peninsula is Schouten Island, also a State reserve.

*Hartz Mountains National Park:* Is located south-west of Geeveston. The main features of the park are Hartz Mountain, 1 253 metres high, several small picturesque lakes, and the superb eastward view from Waratah Lookout. The park is renowned for its display of wildflowers during summer.

*Maria Island:* Is situated off the east coast from Orford and may be reached by chartered boat or aeroplane. Principal attractions include convict ruins from two penal settlements, the main one being at Darlington on the north-west corner of the island. Forester kangaroo, Bennett's wallaby and other Tasmanian fauna have been established on the island and emu have been introduced. At the north-east corner of the island high fossil cliffs rise abruptly from the sea.





*Precipitous Bluff and New River Lagoon, looking towards Hobart*





*Precipitous Bluff from the South*

[Vern Reid]



*Vanishing Falls, near Precipitous Bluff*

[Vern Reid]





*House at Payne Bay, Port Davey area*

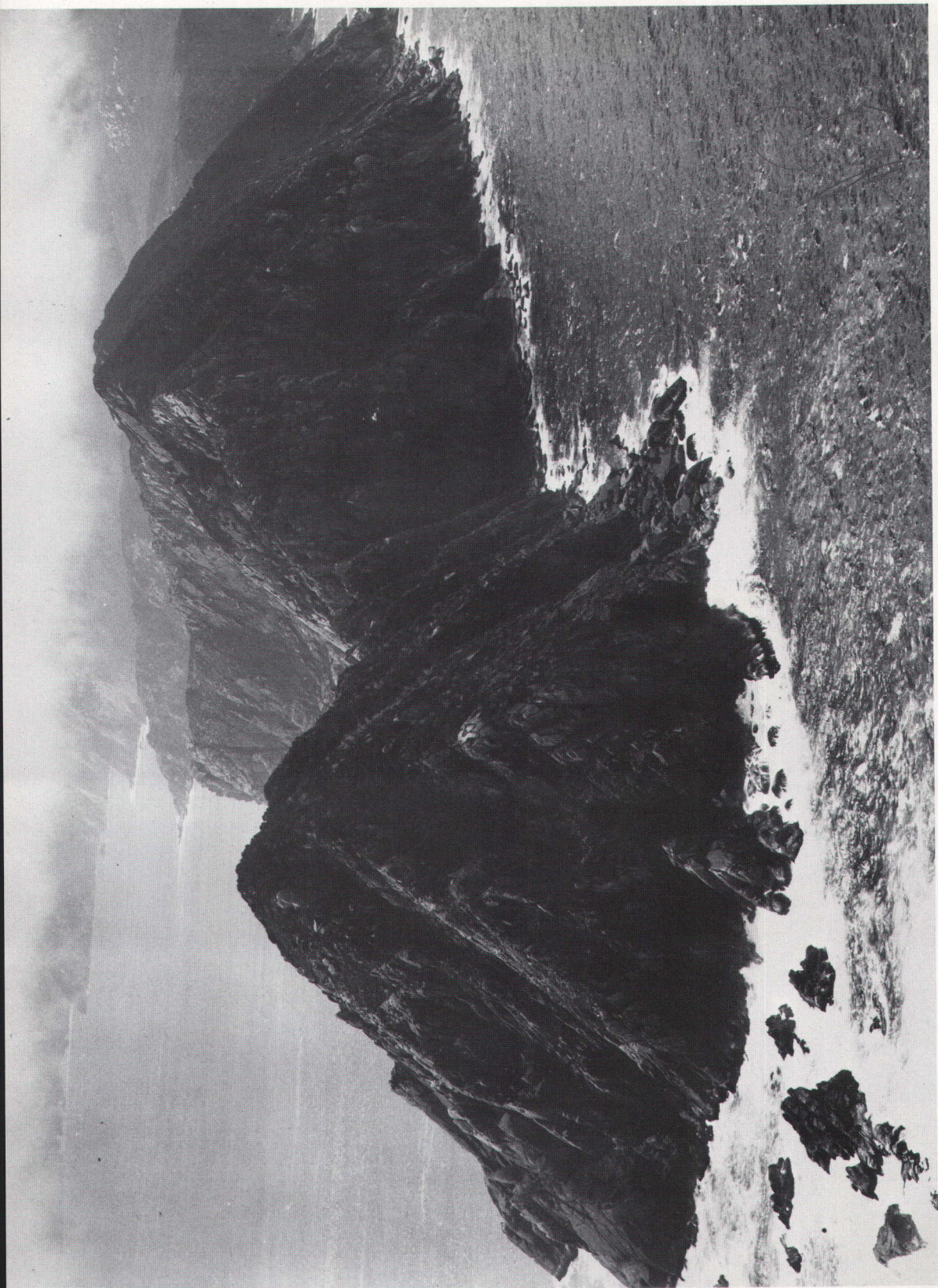
*[Vern Reid]*

*Maatsuyker Is.*

*[Vern Reid]*







*South-West Cape*

*[Vern Reid]*



*Mount Field National Park:* This park, near Maydena and only 75 kilometres from Hobart, is the only southern ski resort in Tasmania and includes spectacular mountain scenery. Principal peaks are Mt Field East and West; other features include Russell Falls, Lake Dobson, several tarns and one of the few stands of native pine forest in the State.

*Port Arthur and Tasman Peninsula:* This historic and scenic area is possibly the best known and most visited tourist attraction in Tasmania. The area, in addition to the historic convict ruins of the Port Arthur penal settlement, contains many small reserves of either historic or scenic significance. Port Arthur, site of a convict settlement from 1830 to 1877, has a number of historic ruins. Unfortunately, many of the buildings are in an extreme state of disrepair, however, some restoration work has been undertaken. Other historic sites include the old convict coal mines at Plunkett Point and Eagle Hawk Neck where guards were stationed and a line of dogs tethered to prevent escape from the Peninsula. Eagle Hawk Neck is also renowned for its spectacular coastal landforms e.g. the Blowhole, Devils Kitchen, Tasman's Arch and the Tessellated Pavement.

*South-West National Park:* Is Tasmania's largest State reserve and covers 191 582 hectares of Tasmania's rugged south-west. It is a true wilderness area and encompasses the Western and Eastern Arthur Ranges, Federation Peak, Frankland Range, Mt Anne, Lake Pedder and part of the rugged south-coast. Dense scrub, which covers much of the area, frequent harsh weather and a scarcity of cleared tracks make this area the domain of the experienced self-contained bush-walker.

Areas in the following table are grouped according to status and principal management objectives. Although the titles 'National Park', 'Historic Site' and 'Nature Reserve' are not embodied in the *National Parks and Wildlife Act*, they are used by the National Parks and Wildlife Service in accordance with widely accepted practice.

State Reserves at 31 March 1975

Name	Area (hectares)	Date first proclaimed	Locality	Remarks
NATIONAL PARKS				
Ben Lomond .. ..	16 032	23.7.47	North-east	Mountainous sclerophyll forest, skiing
Cradle Mt./Lake St Clair ..	126 062	16.5.22	West central	Mountainous, lakes, wet sclerophyll forest
Frenchmans Cap .. ..	10 214	29.8.51	West central	Mountainous, scenic
Freycinet .. .. .	7 541	29.8.16	East	Coastal, red granite outcrops
Hartz Mountains .. ..	8 620	12.3.52	South	Mountainous, scenic
Maria Island .. .. .	9 672	14.6.72	East	Wildlife park, convict and old industrial settlement
Mount Field .. .. .	16 212	29.8.16	South central	Mountainous, scenic, skiing, temperate forest
Mount William .. ..	8 640	3.10.73	North-east	Forester kangaroo habitat, scenic coast
Rocky Cape .. .. .	1 619	21.6.67	North-west	Coastal heath, giant banksia, Aboriginal sites
South-west .. .. .	191 582	16.10.68	South-west	Rugged wilderness area, scenic beauty, includes previous Lake Pedder National Park
Strzelecki .. .. .	3 946	15.3.67	Flinders Island	Mountainous, coastal, scenic
Total national parks ..	400 140	..	..	..

State Reserves at 31 March 1975—*continued*

Name	Area (hectares)	Date first proclaimed	Locality	Remarks
STATE RESERVES				
Baldock Cave (three areas)	43	6.8.39	Mole Creek	Caves, sclerophyll
Bradys Lookout .. ..	1	25.10.66	West Tamar	River, scenic
Brown Mountain/Remarkable Cave .. ..	61	4.6.18	Tasman Pen.	Coastal, scenic geology
Bruny Island—				
Fluted Cape (including				
Penguin Island) ..	244	14.1.19	South-east	Coastal, sclerophyll
Waterfall Creek ..	24	14.1.19	South-east	Coastal
Cape Pillar .. ..	3 200	20.3.74	East	Coastal, sclerophyll
Corra Linn .. ..	0.5	31.1.51	Launceston	Scenic
Croesus Cave .. ..	47	12.7.72	Central north	Caves
Derwent Cliffs .. ..	5	9.1.52	New Norfolk	Scenic
Devils Gullet .. ..	146	14.6.72	North	Scenic gorge
Fairy Glade .. ..	39	28.3.61	Central north	Scenic fern glade
Ferndene Gorge .. ..	3	2.8.39	North	Scenic fern glade
Forth Falls .. ..	55	19.2.18	North central	Waterfall
Gordon River .. ..	4 822	3.5.39	West	Scenic river
Gunns Plains Cave ..	10	19.2.18	North-west	Caves
Hastings Caves, Chalet and				
Thermal Springs ..	61	26.4.19	South	Caves, geology
Hellyer Gorge .. ..	569	11.5.42	North-west	Scenic, temperate rain-forest
King Solomon Caves ..	202	16.8.39	Central north	Caves
Lifey Falls .. ..	101	4.2.50	North central	Scenic waterfall
Lookout Rock, Bichenov ..	2	28.2.40	East	Coastal, scenic
Lyell Highway .. ..	7 284	3.5.39	West central	Scenic, temperate rain-forest
Marakoopa Cave .. ..	71	16.3.39	North central	Caves, geology
Marriotts Falls .. ..	121	5.4.21	South central	Waterfall
Mount Barrow .. ..	459	26.6.40	North-east	Mountainous, wet sclerophyll
Mount Barrow Falls ..	81	2.2.28	North-east	Waterfall
Mount Montgomery ..	299	9.9.70	North-west	Scenic
Murchison Highway ..	613	13.7.66	West	Scenic road, temperate rainforest
Notley Gorge .. ..	11	27.5.54	North	Scenic fern gully
Pieman River (including				
Corinna) .. ..	3 328	7.8.40	West	Scenic river
Port Davey (foreshore and				
islands) .. ..	628	24.10.51	South-west	Scenic foreshore
Roger River Pass .. ..	174	27.6.56	North-west	Scenic, temperate rain-forest
St Columba Falls .. ..	314	29.8.16	North-east	Waterfall
St Marys Pass .. ..	273	31.3.54	" "	Scenic road
St Patricks Head .. ..	150	6.9.67	" "	Scenic
Schouten Island .. ..	3 440	29.3.67	East coast	Coastal, granite, scenic
Tasman Peninsula—				
Eaglehawk Neck Fore-				
shore .. ..	36	28.6.38	Tasman Pen.	Coastal, scenic
Eaglehawk Neck—				
Taranna .. ..	25	3.7.46	" "	Coastal, scenic
Fossil Island .. ..	1	21.6.67	" "	Coastal, scenic
Palmer's Hill Lookout ..	1	1.9.65	" "	Scenic
Mt Arthur .. ..	4	21.12.38	" "	Scenic lookout
Tasman Arch	57	24.7.17	" "	Geology, coastal heath, scenic
(Blowhole) ..				
Tessellated Pavement ..	4	16.11.66	" "	Scenic, geology
Waterfall Bay .. ..	12	28.6.38	" "	Scenic, coastal
Thermal Springs				
(Kimberley) .. ..	1	18.1.65	Central north	Scenic, geological
Zeehan/Renison Bell ..	110	29.5.40	West	Scenic road
Total State reserves	27 133	..	..	..

State Reserves at 31 March 1975—*continued*

Name	Area (hectares)	Date first proclaimed	Locality	Remarks
HISTORIC SITES				
Batchelors Grave.. ..	..	6.9.67	South Hobart	Aboriginal's grave
Bluff Battery .. ..	2	13.12.61	East Hobart	Former gun emplacement
Bowens Monument and Park .. ..	3	24.8.20	Hobart	Site of early landing
Coal Mines .. ..	214	9.11.66	Tasman Pen.	Convict mine
Davey Street, No. 161 ..	..	27.9.65	Hobart	Historic home (Office of Dept of Environment)
D'Entrecasteaux Monu- ment .. ..	0.5	26.1.44	South	Historic monument
D'Entrecasteaux Watering Place .. ..	1	21.5.52	South	Site of early landing
Entally House .. ..	34	1.12.48	Central north	Historic home
George III Monument ..	10	26.4.39	South	Memorial to shipwreck, flora
Grummet Island (Island of the Condemned) ..	..	19.5.54	Macquarie Har- bour	Site of convict station
Oatlands Mill .. ..	0.5	25.6.64	Midlands	Historic mill
Port Arthur .. ..	88	29.8.16	Tasman Pen.	Convict ruins
Isle of the Dead (O'possum Island) .. ..	2	29.8.16	" "	Historic graveyard
Pt Puer—Crescent Bay ..	53	11.8.48	" "	Historic, scenic, coastal
Stewarts Bay (and esp- planade) .. ..	27	18.8.43	" "	Scenic foreshore
Richmond Gaol .. ..	0.5	26.12.45	South-east	Convict gaol
Sarah Island (Settlement Island) .. ..	6	19.5.54	Macquarie Har- bour	Site of convict station
Shot Tower .. ..	3	8.8.56	Hobart	Historic tower
Steppes Homestead .. ..	10	27.6.56	Central	Historic home
Tasman Monument .. ..	..	3.3.43	Tasman Pen.	Monument
Toll House .. ..	..	14.6.61	New Norfolk	Historic building
Waubedobar's Grave .. ..	..	21.8.57	Bicheno	Aboriginal grave
Yorktown .. ..	2	26.11.51	North Tamar	Site of early settlement
Total historic sites	457	..	..	..
NATURE RESERVES				
East Risdon .. ..	44	17.3.71	Hobart	Rare eucalypts
Henty Glacial Moraine ..	1	5.8.70	West	Geology
Macquarie Island .. ..	12 343	14.6.72	Sub-Antarctic	Scientific research, wildlife
Steppes .. ..	6	25.6.57	Central	Dry sclerophyll forest
Truchanas .. ..	406	5.8.70	South-west	Huon Pine forest
Total .. ..	12 800	..	..	..
ABORIGINAL SITE				
Sundown Point .. ..	132	20.3.73	West	Aboriginal relics
TOTAL RESERVES .. ..	440 662	..	..	..

*Conservation Areas*

Areas of Crown or privately owned land may be designated as conservation areas. Wildlife and flora in conservation areas cannot be disturbed without specific approval from the National Parks and Wildlife Service. The following table lists those conservation areas of the State which are wholly under National Parks and Wildlife Service management.

**Conservation Areas under National Parks and Wildlife Service Management  
at 31 March 1975**

Name	Area (hectares)	Date first proclaimed	Locality	Remarks
Albatross Island .. ..	16	28.5.28	North-west Bass Strait	Seabird rock
Asbestos Range .. ..	242	..	North coast	Coastal, beach and heath-land
Babel Island .. ..	445	17.7.57	Furneaux Group	Muttonbird hunting ground
Black Pyramid Rock ..	4	30.6.64	North-west Bass Strait	Seabird rock
Brigg Islet .. ..	..	1.4.49	Furneaux Group	Bird island
Cat Island .. ..	30	12.11.53	" "	Bird island
Chalky Island .. ..	36	1.2.45	" "	Bird island
Dog Island, Great ..	332	17.7.57	" "	Muttonbird hunting grounds
Dog Island, Little ..	95	17.7.57	" "	Muttonbird hunting grounds
Fisher Island .. ..	0.5	10.1.56	" "	Bird island
Gull Island .. ..	32	4.4.51	" "	Bird island
Green Island, Big (fore-shore) .. ..	101	17.7.57	" "	Muttonbird hunting ground
Green Island, Little (part)	89	17.7.57	" "	Muttonbird hunting ground
Hunter Island .. ..	8 499	17.7.57	North-west	Muttonbird hunting ground
Isabella Island No. 2 and Reefs .. ..	10	4.4.51	Furneaux Group	Bird island (Oyster Rocks)
Kangaroo Island .. ..	142	17.7.57	" "	Muttonbird hunting ground
Lake Dulverton .. ..	217	20.12.29	Midlands	Freshwater lagoon, birds
Lake Sorell .. ..	198	23.5.30	Central	Sclerophyll
Lavinia .. ..	1 751	30.3.71	King Island	Coastal heath, dunes
Longford, South Esk River	142	29.10.48	North Midlands	River, scenic
Logan Lagoon .. ..	2 155	6.8.68	Flinders Island	Coastal
Mile Island .. ..	8	4.4.51	Furneaux Group	Bird island
Moulting Lagoon ..	498	16.4.59	East	Coastal, saline lagoon, birds
Mount Chappell Island ..	318	17.7.57	Furneaux Group	Bird island—Cape Barren geese
New Year Island .. ..	109	17.7.57	North-west King Island	Muttonbird hunting grounds
Night Island .. ..	10	4.4.51	Furneaux Group	Bird island
Pegarah .. ..	37	..	King Island	Relic forest
Petrel Islands .. ..	..	17.7.57	Hunter Group	Bird islands
Port Cygnet .. ..	129	13.6.52	South	Foreshore
Port Sorell (islands) ..	24	6.9.45	North	Coastal and estuarine
Rabbit Island .. ..	2.5	19.9.51	Furneaux Group	Bird island
Reef Island .. ..	10	4.4.51	Furneaux Group	Bird island
Rocky Cape .. ..	67	..	North-west	To be added to National Park
Sisters Island East ..	405	17.7.57	Furneaux Group	Muttonbird hunting ground
Sisters Island West ..	607	17.7.57	Furneaux Group	Muttonbird hunting ground
Steep Island .. ..	30	17.7.57	Hunter Group	Muttonbird hunting ground
Three Hummock Island ..	9 308	17.7.57	North-west	Muttonbird hunting ground
Wright Island .. ..	1	17.12.42	Bass Strait	Bird island
Total .. ..	26 100	..	..	..

The next table lists those conservation areas which are under joint management between the National Parks and Wildlife Service and the owner of the land or another authority. The total area of all conservation areas at 31 March 1975 was 514 103 hectares.

Conservation Areas under Joint Management (a) at 31 March 1975

Name	Managed with	Area (hectares)	Date first proclaimed	Locality	Remarks
Ben Lomond .. ..	Forestry Com.	2 665	23.7.47	N.-east	Wet sclerophyll forest
Betsy Island .. ..	Tas. Museum	170	28.5.28	S.-east	Coastal, muttonbird rookery
Burnie Fernglade ..	Burnie Council	44	26.8.38	N. coast	Wet sclerophyll, fern gully
Cape Direction ..	Aust. Govt	5	2.9.48	South-east	Coastal, muttonbird
Caterique Point ..	Owner	374	17.10.38	King Is.	Coastal, muttonbird
Chauncy Vale .. ..	Owner	357	27.6.46	E. central	Dry sclerophyll
Carr Villa Cemetery ..	L'ton Council	62	17.10.38	L'ton	Sclerophyll, modified
Deal Island .. ..	Aust. Govt	1 623	28.7.41	Bass Strait	Coastal—low sclerophyll, open grass lands
Deloraine— West Parade .. ..	Deloraine Council	2	22.6.48	N. central	Riverine, waterfowl
Derwent River (part private) .. ..		1 568	27.2.41	S.-east	River, estuarine marsh, waterfowl
Four Mile Creek ..	Owner	607	25.11.58	North	Foreshore and estuarine
Fulton Park .. ..	Scout Assn	34	13.2.56	North	Scout camp
Glenorchy Water Reserve .. ..	Glenorchy Council and owner	712	6.9.45	Hobart	Dry sclerophyll
Goose Island .. ..	Aust. Govt	97	5.5.64	Furneaux	Coastal, seabirds
Granton Lagoon ..	Owner	8	20.5.38	Hobart	Birds, brackish lagoon
Grimes Lagoon ..	Owner	173	6.3.31	Midlands	Birds, shallow fresh lagoon
Herrick Lagoon ..	Part private	34	7.8.47	N.-east	Freshwater lagoon, birds
Kingston Golf Links ..	Owner	61	26.11.42	South	Dry sclerophyll
Launceston Golf Course	Owner	61	10.12.37	North	Modified sclerophyll
Lea Kingston .. ..	Scout Assn	150	8.5.57	South	Scout camp
Lady Barron (Badger Corner) .. ..	Part private	332	30.6.64	Flinders Island	Coastal foreshore
Medeas Cove, St Helens	Part private	81	13.2.56	N.-east	Coastal, marsh birds
Piper River .. ..	Owner	162	5.12.38	N.-east	Riverine, dry sclerophyll
Punchbowl, Launceston	Council	24	17.10.38	L'ton	Sclerophyll, modified
Paterson Island ..	Scout Assn	16	29.3.46	L'ton	Sclerophyll, modified
Reekera .. ..	Owner	2 428	22.10.57	King Is.	Sandy heath
Sandspit River ..	Owner	429	1.4.49	East	Coastal estuarine, birds
Scottsdale, N.E. Park ..	Owner	16	30.4.53	N.-east	Wet sclerophyll, modified
Sea Elephant River ..	Owner	510	30.6.59	King Is.	Coastal dunes and heath
South-west .. ..	Part Forestry Commission	450 259	13.4.66	S.-west.	Rugged scenic wilderness, caves, scenic coast
Taroona .. ..	Owner	322	30.5.52	King Is.	Tea-tree scrub, dry sandy creek
The Cut, River Tamar	Owners	121	21.12.39	Tamar N.	River and marsh
Tooms Lake .. ..	Forestry Com.	22 663	15.5.30	E. central	Lake and dry sclerophyll

## Conservation Areas under Joint Management (a) 31 March 1975—continued

Name	Managed with	Area (hectares)	Date first proclaimed	Locality	Remarks
Watsons Bluff (Cape Conrairy) .. ..	Owner	4	1.4.48	S.-east	Coastal, muttonbird rookery
Wayatinah Lagoon ..	Hydro-Electric Commission	1 809	16.4.59	S. central	Freshwater lagoon
Woodstock Lagoon ..	Owner	20	21.1.54	North	Shallow lagoon
Total .. ..	..	488 003	..	..	..

(a) Between National Parks and Wildlife Service and owner or other authority.

## Draft Management Plan for the South-West National Park

## Introduction

A Draft Management Plan for the South-West National Park was officially released by the Minister for National Parks and Wildlife, Mr Batt, on 27 May 1975. At the time of release, Mr Batt emphasised that this was a draft plan expected to provide a basis for submissions regarding the future use of the area and that new boundaries were only suggestions at that stage. Following the provisions of the *National Parks and Wildlife Act*, a period of six months was set aside during which the public and interested organisations could lodge comments on the plan with the Minister in charge of the National Parks and Wildlife Service. Comments and suggestions made were to be considered by the Minister after the six month discussion period ended on 1 January 1976.

Since the release of the Plan in mid-1975, a very considerable amount of public criticism was levelled at that part of the Plan concerning the proposed park boundary extensions. Many people maintained that the enlarged boundaries were still inadequate for the preservation of the wilderness values of south-western Tasmania in a proper manner. The Draft Management Plan prepared by the National Parks and Wildlife Service is summarised in this section, including a brief description of the existing South-West National Park.

## South-Western Tasmania

In studying the issues involved in a management plan for the South-West National Park, the National Parks and Wildlife Service considered the general area of south-west Tasmania which is roughly defined as that area south and west of a line from Macquarie Harbour via Wylds Craig and the Snowy Range to Recherche Bay. This area consists of rugged mountains and flat or undulating plains and is covered with a variety of rainforests, eucalypt forests, scrub and buttongrass. The area contains unique botanical species and fauna, and geological features provide some magnificent scenery. This part of the State is still very much the way it was when Tasman sailed around the coast in 1642 as no major settlements were ever made in the area. The reason the south-west survived into the mid-twentieth century with its wilderness condition unscathed was largely that it contained no important minerals or other resources to attract development. Also, Tasmanian Governments have maintained a deliberate policy of discouraging alienation of land in the south-west as they were concerned with avoiding calls for the provision of expensive services in remote areas.

There was some timber getting in the south-west in the nineteenth century but attempts at grazing the buttongrass failed and the lack of good agricultural soil, coupled with very rugged topography and high rainfall, did not encourage its early exploration. The area remained little known and largely unexplored until relatively recently when a steadily increasing number of people became interested in the area from the 1930's. Much of the present popularity of the area was made possible by the production of accurately contoured maps from aerial photographs by the Lands and Surveys Department. This eliminated the need for trial-and-error expeditions into completely unknown territory. The area has become increasingly popular amongst bushwalkers as a wilderness area presenting a mental and physical challenge and offering a variety of splendid and unique scenery. Also, controversy over flooding the original Lake Pedder focussed attention on the region and brought many people to consider the real values of having a wilderness area. Furthermore, development of the Gordon River hydro-electric scheme included the construction of roads giving easy access to the Gordon River, Mount Anne and the south-west in general. This has enabled a large number of people to travel into the area in reasonable comfort and to see at first hand the beauty it has to offer. In addition, the new Lake Pedder and the Hydro-Electric Commission works have become major tourist attractions in their own right. In the year ended June 1974, almost 50 000 people visited Lake Pedder and its surroundings via the Gordon River Road.

Major areas of interest to bushwalkers are the Wilmot-Frankland Range, the Mt Anne-Schnells Ridge area, the Western and Eastern Arthurs Range (including Federation Peak), Mt Picton, the Mt La Perouse-Precipitous Bluff watershed area and the South-West Cape Range. The Bathurst Harbour area is well known for its scenic views—some tin mining leases are worked there and fishermen frequently seek shelter in the harbour.

The water catchment of the New River Lagoon is of great scientific importance as it is one of the very few complete rainforest catchment areas left in Tasmania that remains totally undisturbed by human interference. The coastal strip along the south and west coasts offers highly spectacular coastal scenery and this is one of the few places left in Tasmania where the original virgin forest goes right to the water's edge.

Average annual rainfall over most of the area exceeds 1 500 mm and averages about 2 500 mm over the area occupied by the new enlarged Lake Pedder. Prevailing winds are westerly to south-westerly and winters are cool. Summer temperatures are warm to hot on cloudless days but conditions often change suddenly with little warning. Sudden wind gusts can occur unexpectedly over Lake Pedder and Lake Gordon.

#### *Flora and Fauna in South-Western Tasmania*

Due to the lack of development, both the vegetation and animal life in the south-west present a picture of Tasmanian nature relatively undisturbed through the interference of man. Most experts agree that the real value of flora and fauna in the area is not so much due to the large array of oddities and rarities but rather to the production, by a large number of comparatively small plants and animals, of a unique environment and wildlife habitat. In the Lake Pedder area alone, 12 small animal species have been found that have not yet been found anywhere else in the world. Rare frogs and parrots are to be found and a large variety of marsupials abound. The flora is also of great interest, and ranges from thick eucalypt forests and myrtle rainforests to buttongrass plains and mountain flora, interspersed occasionally with very rare specimens. Many of



the mountains carry a rich and beautiful alpine cover, of which the top of Mt Anne is a well known example. The amount of properly documented authoritative information on the area so far available is small but under the Management Plan, encouragement for scientific studies of the vegetation, wildlife and landforms in the South-West National Park would be given.

#### *The Present South-West National Park*

The original Lake Pedder National Park was proclaimed in 1955 following many representations to the Government by groups and private persons. This scenic reserve covered 23 500 hectares but in 1968 was enlarged to 189 000 hectares and renamed 'South-West National Park', covering in general the area between Strathgordon and the New River Lagoon. Enlargement of the Park followed recommendations made by an *Inter-Departmental Committee on the Development of the South-West of Tasmania*. This committee had been appointed by the Government in December 1966 to consider all matters pertaining to the development of the South-West region of the State. Later additions to the Park increased its area to 191 582 hectares.

The present South-West National Park contains no enclaves of private land and there are no forestry or mining rights of any kind held on land within its boundaries. Apart from some shelter huts, a few direction signs for walkers and some well-worn tracks, there are no improvements in the Park south of the Lake Pedder area. Along the Strathgordon and Scotts Peak roads, a number of road-side facilities for day visitors have been provided, while an area for use by caravans and campers has been made available at Scotts Peak.

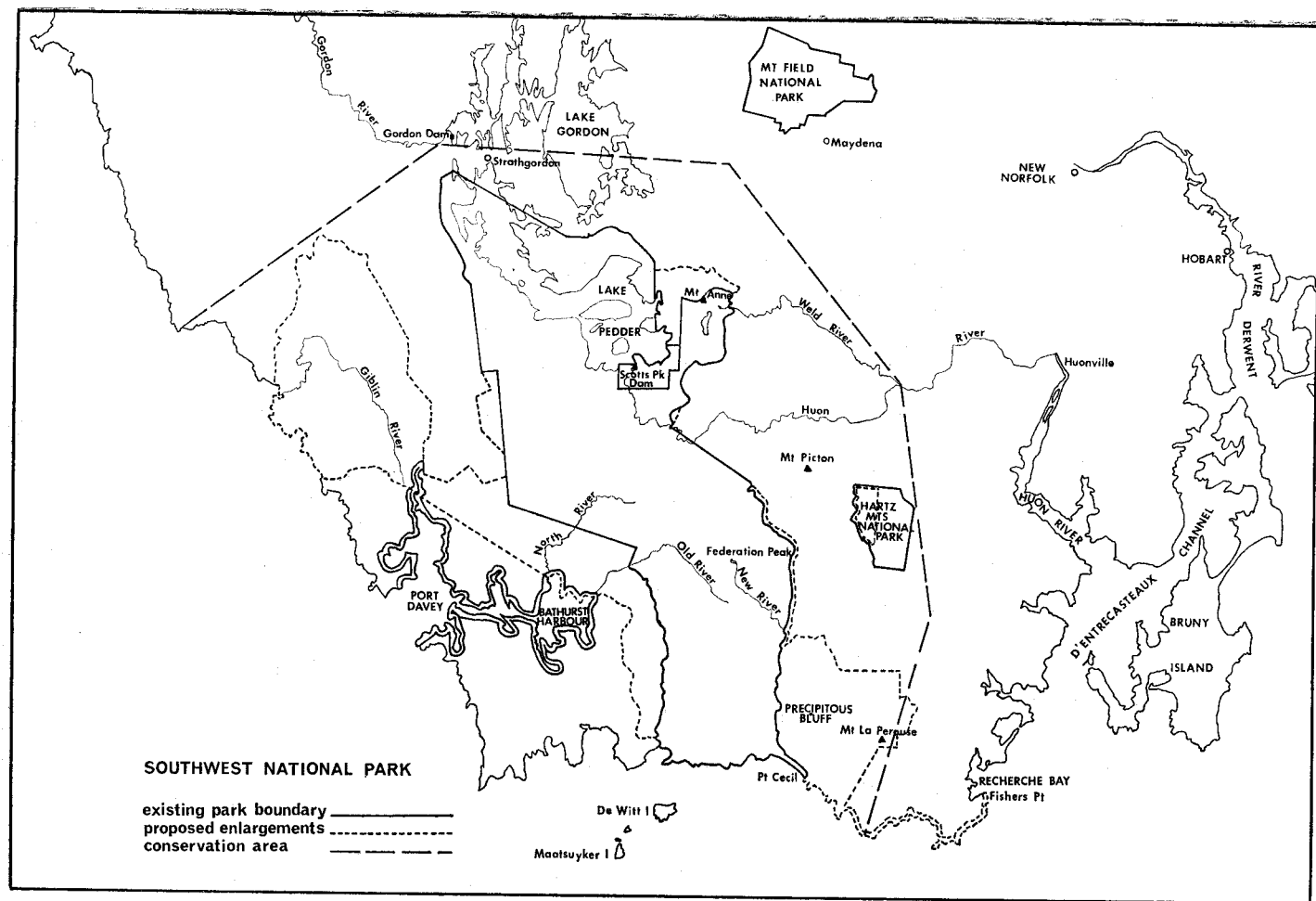
#### *The Proposed South-West National Park*

The National Parks and Wildlife Service considered representations to the Government made by a large number of private persons and organisations in relation to the desirability of including a much larger part of south-western Tasmania within the boundaries of the Park. Many of these emphasised the exceptional, and often unique, natural and scenic values of the area and, in particular, the 'South-West Committee' contributed valuable comments and recommendations. Recommended boundary extensions to the present South-West National Park contained in the Draft Management Plan are set out below:

*The Catchment Area of the Giblin River:* Much of this area is comparatively flat and lightly timbered. Its extensive buttongrass plains are without commercial values, but offer an ideally quiet and undisturbed habitat to a large variety of wildlife, some of which is very rare. Its wild ocean beaches are very rarely visited, and are known to hold a valuable collection of aboriginal relics. Professional research so far has indicated their high scientific value, and the extension of park management of this area will assist in their protection and study.

*A Number of Areas Adjacent to the Western Boundary of the Present Park:* These include Greystone Bluff, the Bakers Ridge area, the lower catchment areas of the North River and the Old River and the eastern slopes of the Ray Range. These additions to the Park will assist in a better conservation of the landscapes formed by the features mentioned, and in particular will bring into the Park the remaining section of the two small but complete river systems of the North and Old rivers.

*All Islands and Rocks off the Tasmanian South Coast:* This addition aims in particular at the protection and conservation of the wildlife on these islands, most of which are jagged or steep rocks that are virtually inaccessible.



*Waterfront Boundaries:* Where existing or new park boundaries front onto salt water, the boundary shall coincide with low water mark.

*The Southern Coastline from Pt Cecil to Fishers Point:* In this area, a coastal strip about 400 metres wide will bring into the Park a magnificent scenic coastline unmodified by human activities.

*The Precipitous Bluff-Mt La Perouse Area:* To include the Vanishing Falls, Mt Bisdee, Mt Victoria, Mt Wylly, Pindars Peak and Moonlight Ridge. In addition to mountain scenery and a very spectacular waterfall, this intended addition to the Park contains, on the western slopes of Precipitous Bluff, a beautiful mature temperate rain forest of outstanding scenic and biological value. The same area also includes a number of medium to large limestone caves, some of which sustain fauna of high scientific interest. The addition of the Precipitous Bluff area to the Park will complete to a great degree the bringing into the Park of the total catchment area of the New River Lagoon. This area is still in its undisturbed nature state, and is of great interest to scientific research of 'predevelopment conditions' in Tasmania. To effect this addition to the South-West National Park an area of approximately 2 300 hectares of forested land in the Hartz Mountains National Park will be revoked and made available for forestry purposes.

*The Eastern Riverbanks of the Cracroft River, the New River and the Salisbury River:* A nominal strip of 100 metres wide along the eastern banks of these rivers will secure the protection of the scenic values of these rivers.

*A Small Area Containing Judd's Cave:* This recently discovered cave is of more than ordinary interest because of its underground features, and is likely to be connected with a number of depressions higher up on the slopes of Burgess Bluff. The entrance to the cave is only a few hundred metres outside the present Park boundary, and a small extension of the Park at this location will be negotiated. The Forestry Commission has agreed to give full consideration to the values of the Judd's Cave system when a forest management plan is prepared covering the State Forest in the vicinity of this cave.

*A Small Area of Vacant Crown Land about 9 kilometres South-East of the Scotts Peak Dam:* The features of this area are similar to the area immediately east of the Lake Edgar dam.

*The Mt Anne-Scotts Peak Area:* This extension will bring into the Park the northern slopes of Mt Anne and other areas between the north-eastern boundary of the Park and Lake Pedder. Land vested in the Hydro-Electric Commission will be excluded from these extensions.

*The Northern Shores of Lake Pedder:* This extension will add the remainder of the new Lake Pedder to the Park, and negotiations will aim at a new boundary generally about 1 kilometre north of the present Strathgordon road. Land vested in the Hydro-Electric Commission will be excluded from these extensions.

Several of the above proposed extensions of the boundaries of the South-West National Park will require negotiations involving forestry interests (including State Forests), exploration licences in the Precipitous Bluff area and a number of small areas at present vested in the Hydro-Electric Commission. In addition, all park extensions involving waterfront areas may be subject to the requirements of State and Federal authorities charged with the safety of navigation around Tasmania.



### *Management of the Park*

The object of management was seen as protection and conservation of the natural and scenic values of the wilderness features inside the boundaries of the South-West National Park for the benefit of present and future generations. This was considered to involve control and protection requiring provision of a Park ranger service. The Management Plan also recommended the promotion of scientific studies of flora and fauna of the Park, and a programme of Park interpretation and other services to visitors. The division of the Park into zones for management purposes was proposed—a 'natural area' including 'development areas' within its boundaries and a 'wilderness area'.

*The Natural Area:* was defined as an area having a substantial proportion of natural endemic vegetation and animal communities, together with some man-made developments and deliberate variations to the landscape. The principal management aim in this area would be to maintain the natural environment while at the same time providing appropriate recreational opportunities for visitors. The boundaries of the proposed natural area were defined to include that part of the South-West National Park located within 1 000 metres from the Gordon River and Scotts Peak roads; that part of the Park within 1 000 metres on the land side from the shores of Lake Pedder, the water surface of Lake Pedder and the surface of all islands in Lake Pedder that are within the Park boundaries. The *development areas* were seen to lie within the natural area and generally near the southern shores of Lake Pedder. These areas were defined as those parts of the natural area which either receive heavy visitor usage or are places where development is required for management of the Park. These areas may include accommodation establishments, shops, utilities, camps, large parking areas, etc. The aim is for development areas to be of limited size and number in order to reduce their influence on the general landscape.

*The Wilderness Area:* was considered to make up the remainder of the proposed Park and would comprise those areas of undeveloped land retaining their primeval character and influence without any permanent improvements, human habitation or noticable imprints made by man. Such areas should offer outstanding scenic and natural values and opportunities for solitude. The Management Plan aimed to protect and manage such areas in such a way as to preserve their natural condition. Access to wilderness areas is to be by foot only with the possible introduction of controls over the numbers of walking parties on particular tracks if considered necessary in order to prevent environmental damage.

### *Other Aspects of the Management Plan*

One recommendation made was that the road along the Weld River which is planned for forestry purposes be built to a suitable standard so as to form a link road between the Lake Pedder area and the Huon district. In particular, it was considered that this would benefit the tourist trade. It was considered that the newly formed Lake Pedder was likely to attract many boating enthusiasts in summer as it allows rapid access by boat to some of Tasmania's most scenic mountain areas. The new Lake Pedder has a surface area of about 250 square kilometres and, in combination with the adjacent Lake Gordon, forms the largest fresh water storage in Australia. The Management Plan outlined proposals to control and provide facilities for boating on Lake Pedder. Provision of a modern tourist launch for ferrying visitors across the Lake from Strathgordon to Scotts Peak and vice versa (including a stop at Coronation Peak) was recommended. In order to encourage tourists to the area it was considered essential for quality accommodation to be made available at the ends of the Gordon and Scotts Peak roads.

The Plan also discussed in some detail matters relating to access to the Park area, policies relating to flora and fauna, visitor services and tourism potential, provision of aircraft landing facilities and proposals for management of the Park by rangers. It was proposed that ranger stations be located at Scotts Peak, Strathgordon, Geeveston and Bathurst Harbour.

### War Service Land Settlement

After both World War I and World War II, government schemes were operated with the aim of assisting ex-servicemen to settle on the land. The following section deals only with the scheme initiated to settle on the land eligible ex-servicemen from the 1939-45 War and the Korean and Malaysian operations.

Finance for capital expenditure under the scheme has been provided under the authority of the Australian Parliament's Loan (War Service Land Settlement) Acts but the State Government is the administrative authority for actual operations, control being exercised through the Closer Settlement Board. The basic work of the Board involved land acquisition and the development of rural holdings on which eligible ex-servicemen were then settled. Work has now been completed and all holdings have been made over to settlers.

The following table summarises progress in physical terms (farms allotted, etc.) and in financial terms (loans to settlers, payments for acquisition, etc.):

**War Service Land Settlement**  
**1939-1945 War and Korea-Malaya Operations**  
**Summary to 30 June 1974**

Operations		Australian Government expenditure (aggregate)	
Particulars	Total to 30 June 1974	Advances in respect of Tasmania	Total to 30 June 1974 (\$'000)
Land acquired (net) hectares	183 215	For acquisition of land .. .. .	5 069
Farms allotted—		For development and improvement of land ..	36 081
Number ..	481	Contribution to excess cost over valuation ..	31 768
Area .. .. hectares	183 215	Settlers' credit facilities .. .. .	17 461
		Concessions, remissions, moneys written off—	
		Interest .. .. .	831
		Principal .. .. .	611
		Living allowances for settlers .. .. .	500
		Irrigation projects .. .. .	6
		Cost of administration of credit facilities	1 137
		Total .. .. .	93 458

Of the farms allotted to 30 June 1974, the largest concentrations were at King Island, Flinders Island, the Lawrenny Estate and the Montagu Project. The 481 farms both allotted and occupied at 30 June 1974 comprised: dairy farms, 191; fat lamb farms, 171; fat lamb and beef farms, 72; orchards, 24; wool-sheep, 20; beef, 3.

### Advances to Primary Producers

Although the principal efforts in land settlement since World War II have been made under the War Service Land Settlement Scheme, the State Government has also operated its own loan schemes to assist primary producers. However, present economic problems facing rural industries have directed government attention towards rural reconstruction. The State Government is involved in the administration of three rural reconstruction schemes under the *Marginal Dairy*

*Farms Reconstruction Act 1971, Rural Reconstruction Act 1971 and the Fruit-growing Industry Reconstruction Act 1972.* Funds are provided by the Australian Government for implementation of these three schemes; administrative costs are borne by the State. The following table shows particulars of advances under various Acts:

**Advances to Primary Producers by the Agricultural Bank**

Act	Total advances made during 1973-74	Total advances to 30 June 1974	Balances outstanding at 30 June 1974	
			Number	Amount
	\$'000	\$'000		\$'000
State Advances Act (including rural credits) 1935 .. .. .	2 493	22 550	1 888	8 118
Australian Government Re-establishment and Employment Act 1945 .. .. .	..	834	30	15
Primary Producers' Relief Act—				
1947 .. .. .	..	595	3	3
1968 .. .. .	..	587	66	358
1970 .. .. .	..	177	34	127
1971 .. .. .	..	100	17	96
Marginal Dairy Farms Reconstruction Act..	23	173	14	139
Rural Reconstruction Act .. .. .	700	3 300	202	2 829
Closer Settlement (Soldiers) Act .. .. .	..	191	49	42
Closer Settlement Act.. .. .	100	825	138	620
Fire Damage Relief Act 1967 .. .. .	..	2 599	291	1 717
Total .. .. .	3 316	31 931	2 732	14 064

The main forms of assistance now available are: (i) Under Part III of the *State Advances Act 1935*, loans may be made to persons in rural industries for the purchase of farm properties, discharge of mortgage or for making improvements. Loans may be made for periods up to 30 years at an interest rate determined by the Treasurer. The present rate of interest is 8.25 per cent. The present limit on any single advance is \$50 000. (ii) Under Part IV of the Act (*Short Term Rural Credits*), loans may be made to persons engaged in prescribed rural industries for the purchase of stock, plant, seeds and manures and for other purposes considered necessary for carrying on their industry. There is no statutory limit to the amount which may be advanced to each applicant. Usual periods of loans are: plant, 10 years; stock, five years; land development, 10 to 15 years; structural improvements, 20 years; working expenses, one to three years. (iii) Under the various rural reconstruction Acts loans are made for rural reconstruction, debt reconstruction, etc.; see the next section for further details.

The *Fire Damage Relief Act 1967* was part of the State Government's reaction to the disastrous bushfires of February 1967 when 260 000 hectares of farm land, bush and forest were devastated in 14 southern municipalities. The fire caused severe stock and fodder losses and destroyed farm homes, barns, fences, etc. Assistance for the rebuilding of farmers' homes was provided under the general scheme applicable to all citizens but other types of farm rehabilitation were provided for in a loan scheme administered by the Agricultural Bank.

## RURAL RECONSTRUCTION

### Rural Reconstruction Act

On 4 June 1971 an agreement was signed between the Australian Government and the State of Tasmania, the object being the implementation of a national scheme of rural reconstruction; in essence, the Australian Government provides



the financial assistance but the detailed administration is vested in the State. Similar federal-state agreements were entered into by the other Australian states on the same date. In October the Tasmanian Parliament passed the *Rural Reconstruction Act 1971* which established the mechanism for administering the scheme in Tasmania.

The original amount made available for national application during the period 1970-71 to 1974-75 was \$100m of which Tasmania was to receive \$3.3m. Subsequently the Australian Government made a further \$51m available for use during 1973-74, Tasmania's share of the additional amount being \$1.3m. Following a review in April 1974, the Australian Government made available \$30m for use in 1974-75, Tasmania's share of this amount being \$1.1m.

The concepts underlying the scheme were originally framed with the particular circumstances of the Australian sheep and wheat industries in mind. However, the operation of the scheme now provides for the inclusion of all types of agricultural industry except for 'farm build-up' cases covered under the *Marginal Dairy Farms Reconstruction Act 1971*. In March 1973, at a conference of state and federal ministers for primary industries, it was agreed that farm build-up was the preferred form of assistance since it led to permanent restructuring within the rural sector. For 1973-74 the states agreed the objective should be 70 per cent of approved allocations for farm build-up, and approvals for debt reconstruction were not to exceed 50 per cent of approvals without prior approval by the Australian Government.

#### *Debt Reconstruction*

This is to apply to the farmer who has sound prospects of successful operation but who has used all his cash resources and cannot meet his financial commitments.

The assistance can encompass a rearrangement and/or a composition of debts, the negotiation of a concessional rate of interest in substitution for existing rates, and advances of additional funds for carry-on expenses, the purchase of livestock and further property development. The rearrangement and/or composition of debts may be accomplished by the reconstruction authority advancing money to pay existing creditors in whole or in part; or making arrangements with creditors to refrain from taking action against a debtor for a specified time; and in some cases asking creditors to defer or write-off part of their debts.

Advances made under the scheme may be for a maximum term of 20 years and there is provision for an initial period where no principal repayment may be required. Interest is at an average of four per cent.

#### *Farm Build-up*

The basic intention is to assist in the build-up of properties to a size commensurate with economic operation; the concern is with the amalgamation of adjoining holdings.

When an adjoining property is sold to a farmer, the reconstruction authority may make a grant to cover the value of acquired assets which are not useful to the enlarged property (e.g. the farm dwelling). Advances may also be made by the authority for carry-on expenses, plant, livestock and property development if these demands are associated with the additional land. Advances will be restricted to a maximum term of 30 years and interest to a minimum of 6.25 per cent.

If a farmer participates in the debt reconstruction scheme, he is not thereby disqualified from the farm build-up scheme if circumstances warrant his inclusion.

### Rehabilitation

Loans of up to \$3 000 may be made to those obliged to leave a rural industry. Those eligible comprise: (i) those selling a property to an adjoining owner who has been assisted under the farm build-up scheme; (ii) those unable to secure assistance under the debt reconstruction scheme because of poor long-term prospects of success.

### Re-training

Certain farmers, family members and farm employees are eligible for re-training under a scheme administered by the Department of Labour and Immigration.

### Tasmanian Authority

In Tasmania, the administering authority is the Rural Reconstruction Board, composed as follows: chairman (the manager of the Agricultural Bank); one representative each from the Agricultural Department and the State Treasury; a public accountant with farmers as clients; and two farmers. The machinery of the Agricultural Bank is available to help in the administration of the scheme.

#### Rural Reconstruction

Particulars	1973-74	Total to 30.6.1974
Farm build-up—		
Applications—Received .. .. . no.	53	210
Approved .. .. . no.	34	75
Assistance approved .. .. . \$'000	773	1 559
Debt reconstruction—		
Applications—Received .. .. . no.	43	396
Approved .. .. . no.	9	128
Assistance approved .. .. . \$'000	161	2 499
Rehabilitation loans—		
Applications—Received .. .. . no.	7	21
Approved .. .. . no.	7	15
Assistance approved .. .. . \$'000	19	42

### Marginal Dairy Farm Reconstruction Scheme

To achieve some stability in the dairying industry the Australian Government introduced, in 1970, the Marginal Dairy Farm Reconstruction Scheme. The Australian Government agreed to make available \$25m to the states over a four-year period commencing in July 1970 for implementation of the scheme. Half of the money made available is by way of grant and the other half by way of loans repayable over 23 years in half yearly instalments. The states are required to administer the scheme; in Tasmania management of the scheme is vested in the Board of Management of the Agricultural Bank of Tasmania.

The Tasmanian *Marginal Dairy Farms Reconstruction Act* 1971 ratified the scheme for Tasmania and in December the State-Australian Government agreement was signed. The scheme provides for dairy farmers, who produce milk and cream for manufacturing purposes and whose farms have insufficient potential to become economic units, to voluntarily dispose of their properties at market value to the State Government. The land and any useful improvements are then sold on the

basis of the most practicable and economic land use for farm build-up purposes. In 1973 the Australian Government announced that the scheme would be extended and broadened beyond the initial period of operation which ended on 30 June 1973.

#### *Eligible Dairy Farmers*

A marginal dairy farm is defined as a rural property: (i) from which not less than one half of the gross income is derived from the production of milk and milk products; (ii) where the production is derived from not less than 20 cows; and (iii) which, if used only for dairying and related purposes, is not reasonably capable of producing more than 5 443 kilograms of butterfat or its equivalent. An owner of a property, which meets these requirements, may offer his farm for sale to the State under the scheme. If the application is approved then the owner is paid the market value of the farm or a mutually agreed price. Only the land and structural improvements are acquired by the Government; the farmer has to make his own arrangements for the disposal of livestock and plant.

#### *State Disposal of Marginal Dairy Farms*

The purchaser of a marginal dairy farm from the State must fulfil the following conditions: (i) he must already own land suitable for amalgamation with the property to be purchased; (ii) if the property is to be used for dairying, the buyer must have owned his existing property for at least two years; (iii) after purchase the amalgamated properties must be capable of producing the equivalent of 6 804 kilograms but not more than 20 412 kilograms of butterfat; and (iv) the properties must be within reasonable working distance from each other. An applicant may purchase more than one marginal dairy property or two or more farmers may acquire portions of such a property providing each amalgamation creates an economic unit and the preceding conditions are met. A buyer of a marginal dairy farm is not required to pay for structural improvements not required by him for satisfactory operation of the property.

#### *Activities of the Board*

To June 1974, 54 applications for assistance had been received, of which 14 were approved involving a total amount of \$207 000.

#### **Fruitgrowing Reconstruction Scheme (Tree Removal)**

Serious economic problems confronting the Australian fruit industry led to the establishment, by the Australian Government, of a scheme to assist reconstruction of the fruit industry. In Tasmania the scheme applied only to apple or pear growers in serious financial difficulties. The Tasmanian *Fruitgrowing Industry Reconstruction Act* 1972 authorised implementation of the Australian Government-State fruitgrowing reconstruction agreement and made the State Rural Reconstruction Board responsible for administering the scheme. In November 1973 a further agreement was entered into between the Australian Government and the states which extended operation of the scheme for a further 12 months.

Total financial assistance provided under the scheme to all states by the Australian Government was limited to \$4.6m. Administrative expenses incurred are borne by the states.

#### *Eligible Fruitgrowers*

Growers involved in the apple or pear industry in Tasmania could apply for assistance if the Board was satisfied that the number of trees which the grower had constituted a commercial operation and either the grower: (i) was predominantly a horticulturist in severe financial difficulties and intended to remove

all of his trees and leave the apple or pear industry; or (ii) did not have adequate resources to withstand the short-term economic effects of removal of surplus trees, but in the opinion of the Board his farm enterprise had sound long-term prospects after tree removal and putting the released land to an alternative use. A time limit was placed on applications for assistance—they had to be lodged not earlier than 14 July 1972 and no later than 30 June 1973 and the trees had to be removed by 31 October 1973. However, the November 1973 supplementary agreement varied the dates—the final date for tree removal was set at 31 October 1974. Trees removed after that date did not qualify for compensation. Following discussions between ministers of the federal and all state governments in April 1974, the Australian Government Minister agreed to recommend to his Government that the scheme be extended to 31 December 1975 and that the Industries Assistance Commission be asked to report on the possible extension of reconstruction assistance to fruitgrowers beyond 31 December 1975. Also it was decided that growers rendered ineligible for assistance because they had not removed trees in the prescribed time should be given an opportunity to make fresh applications. Any person assisted under this scheme could also apply for assistance under the Rural Reconstruction Scheme.

#### *Type of Assistance*

Assistance was based on tree removal and compensation up to a maximum \$864.87 per hectare (\$350 per acre) for growers of fresh apples and pears with an overall average of not more than \$617.76 per hectare (\$250 per acre) was payable for approved tree removals. When determining the amount of compensation, consideration was given to the age, variety and condition of the trees, the markets and any other matters deemed relevant to the case. The average rate of assistance in respect of approvals made to 30 June 1974 was \$586 per hectare (\$237 per acre).

Growers who received compensation and remained on their holdings had to undertake not to re-plant apple or pear trees on their properties within a period of five years. To ensure compliance, compensation is provided in the form of an interest bearing loan—the interest being rebateable annually if the grower observes the undertaking not to replant.

#### *Activities of the Board*

At the end of June 1974 the following progress had been made: (i) applications received for (a) partial removal, 265, (b) complete removal, 350; (ii) assistance approved for (a) partial removal, \$601 000, (b) complete removal, \$801 000, (c) total approvals, \$1 402 000; (iii) total area of trees approved for removal, 2 367 hectares.

## AGRICULTURAL INDUSTRY

### General

The Tasmanian rural economy is marked by great diversity and even allowing for the special regional adaptations made necessary by soil, climate, terrain and altitude, there are many agricultural holdings which individually exhibit an extremely varied range of activities.

The present pattern of farming puts an increasing emphasis on livestock rearing for meat production, borne out by the continuing increase in the area of sown and semi-improved pasture. However, producers who made the shift to meat production were faced with declining livestock prices in 1974. Wool and dairy products are still very important but production of these has tended

to level off because of depressed prices despite a marked improvement in wool prices in 1973. Orchardring, hop growing and growing of vegetables for processing are also of considerable significance but each (especially orcharding) has also suffered from severe marketing difficulties in recent years. This has resulted in a number of small holdings being absorbed into larger and more economic farm units.

The next section deals with the early history of Tasmanian farming and emphasises the importance of wheat growing in the early colonial era.

### Historical

The pattern of early crop development can be inferred from the following summary of official farm statistics:

**Area Under Crop: Van Diemen's Land, 1818-1841**  
(Hectares)

Year	Wheat	Barley	Oats	Peas	Beans	Pota- tocs	Turnips	English grasses	Tares	Total crops
1818 .. ..	2 043	87	<i>n.a.</i>	60		108	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	(a)
1828 .. ..	8 238	1 564	637	261	14	523	524	2 011	..	13 773
1838 .. ..	16 900	5 461	8 732	351	52	1 429	3 664	6 940	177	43 706
1841 .. ..	25 792	3 646	6 666	299	41	1 694	6 452	8 936	141	53 667

(a) Not available on a comparable basis.

Livestock statistics for the same period are summarised as follows:

**Livestock: Van Diemen's Land, 1818-1841**

Year	Horses	Horned cattle	Sheep	Goats
1818 .. ..	267	12 356	127 883	..
1828 .. ..	2 034	84 476	553 698	708
1838 .. ..	9 656	75 087	1 214 485	2 400
1841 .. ..	12 000	90 498	1 167 737	2 630

In 1842 the island Colony was Australia's principal wheatgrower and, with over 30 000 hectares sown to this crop, contained nearly half the Australian wheat area. Throughout the 19th century wheat was a principal cash crop but eventually competition from the other states (both in type and price) caused a decline, as shown in the following table:

**Wheat for Grain: Area and Total Production, Selected Years**

Year	Area	Production	Year	Area	Production
	hectares	tonnes		hectares	tonnes
1860-61 .. ..	26 891	38 538	1930-31 .. ..	7 732	10 641
1870-71 .. ..	23 222	24 413	1940-41 .. ..	3 253	3 810
1880-81 .. ..	20 243	20 412	1945-46 (b) .. ..	2 016	1 823
1890-91 .. ..	13 133	17 500	1950-51 .. ..	2 152	2 586
1898-99 (a) .. ..	34 514	62 706	1960-61 .. ..	2 797	4 028
1900-01 .. ..	20 973	30 210	1970-71 .. ..	4 479	7 691
1910-11 .. ..	21 142	30 509	1972-73 .. ..	4 251	7 701
1920-21 .. ..	11 446	15 404	1973-74 .. ..	2 521	3 510

(a) Peak production year.

(b) Record low production year.

The home-grown product is now used to make high quality biscuit flours (for which it is well suited) and for stock feed.

Before the 1850's, most farmland had been confined to the eastern half of the State where open plains and open forest country encouraged penetration. Further development required the clearing of more thickly timbered land, the principal attraction being the fertile chocolate coloured volcanic soils of the north-west coast; at the same time, the discovery of the basalt lands in the Scottsdale-Ringarooma area was followed by settlement in the north-east. In the 1840's pioneers began to develop orchards, mainly for apples, in the heavily timbered Huon Valley; later in the 19th century orchards were established in the Tamar and lower Mersey Valleys. In the decade after Federation, annual apple production first exceeded one million bushels (as compared with the 1963-64 record crop of 8½ million bushels).

In the 20th century, the State and Australian Governments played major parts in encouraging rural development and settlement, comprehensive soldier settlement schemes being introduced after both World Wars. In the last decade, major private schemes have concentrated on pastoral development in the far north-east.

### **Agricultural Industry Statistics**

#### *Sources of Information*

The statistics are, in the main, compiled from census returns of crop, pastoral and dairying production collected from agricultural holdings in Tasmania at 31 March each year. In conjunction with the general census, supplementary collections from farms are conducted where the harvesting of certain crops has not been completed by 31 March (e.g. apples, potatoes).

Additional information is also obtained from various marketing and other authorities and from a number of entirely separate collections covering such data as slaughtering and meat and dairy production.

#### *Period Covered*

Data relating to area sown, production and number of holdings growing crops are, in general, for the season ended 31 March. In cases where harvesting has not been completed by 31 March (e.g. potatoes), total production is nevertheless collected and included in published figures. Livestock numbers are also reported as at 31 March.

#### *Agricultural Holdings*

An 'agricultural holding' is defined as a piece of land of one hectare or more in extent (one acre or more prior to 1973-74) used for the production of crops or for the raising of livestock and the production of livestock products or a piece of land of less than one hectare with commercial agricultural activity (e.g. nurseries, poultry farms, etc.). Care should be exercised in drawing conclusions from changes in the number of agricultural holdings over a series of years. There are many small sub-commercial holdings, a proportion being no more than large residential blocks with perhaps a small plot of potatoes or other crops, or carrying a house-cow or poultry. It is very difficult, in some cases, to determine whether or not they should be regarded as agricultural holdings within the definition and over a period of time some variation in treatment has occurred.

### Area of Crops

Total area of land sown or planted to crops is shown irrespective of whether the whole area was subsequently harvested or whether a portion or the whole of the crops failed and was not harvested. Where two *successive* crops are grown on the same land during the one season the land is included twice in the area of crops.

### Value of Production

The statistics in the following sections refer mainly to areas sown to crops and quantities produced. The value of the various crops is shown under 'Value of Production' in chapter 8.

### Classification of Agricultural Holdings By Type of Activity

Because many Tasmanian holdings are devoted to more than one specific type of farming activity it is difficult to present, in summary form, the essential characteristics or structure of agricultural industry in the State today. Before considering in detail crop areas, production statistics and livestock numbers, it is logical to examine the main 'line' of each farm and to determine the principal activities; from this study can be derived a classification of holdings by type of activity. In 1959-60 the first attempt was made at classifying agricultural holdings in all states on a uniform basis. Similar classifications were produced for 1965-66, 1968-69 and 1970-71 and, commencing in 1973-74, an annual series is being produced (although later figures were not available at time of printing).

Basically the method used to classify to farm types is as follows: If a single activity accounted for 50 per cent or more of the total estimated gross cash receipts at the farm, that activity determined the holding type. Where no single activity accounted for 50 per cent of the total gross receipts, the holdings were classified as 'multipurpose'. Principal exceptions to this general rule were holdings reporting sheep and cereal grains, and cattle (milk production) and pigs. In the former case, certain holdings were treated as composite sheep-cereal grain types. Holdings not first classified as pig type were then classified as cattle (milk production) type holdings if the combined gross receipts from pigs and cattle (milk production) accounted for 50 per cent or more of total gross receipts. Different criteria were used for classification of pig and cattle (milk production) type holdings prior to 1970-71 resulting in an increase in the number of pig type holdings and a decrease in the number of cattle (milk production) type holdings in the 1970-71 classification compared with previous classifications.

The next table is a summary of the main farm types for the years 1959-60, 1965-66, 1968-69 and 1970-71:

**Holdings (a) Classified According to Type of Activity, Selected Years**

Year	Type of holding						
	Sheep	Cattle		Fruit	Multi-purpose	Other (b)	Total classified
		Meat	Milk				
1959-60 .. ..	1 984	153	3 038	1 527	743	684	8 129
1965-66 .. ..	1 547	276	3 026	1 234	924	857	7 864
1968-69 .. ..	1 423	468	2 678	906	652	820	6 947
1970-71 .. ..	1 714	444	(c)2 448	869	211	777	6 463

(a) Excludes 'sub-commercial' and unused holdings.

(b) Comprises sheep-cereal grain, cereal grain, potatoes, other and mixed vegetables, poultry, pigs, and other (one main purpose) types.

(c) Not strictly comparable with previous years due to a change in classification criteria.



A geographical distribution of holdings classified according to type of activity in 1968-69 will be found in the 1973 *Year Book*; in the same text appears a description of the principles applied in making the classification.

### Size of Agricultural Holdings

A classification of agricultural holdings by size is carried out at irregular intervals. In the next table the size classifications have been converted directly from acres to hectares; hence the unusual class limits.

Classification of Rural Holdings by Size

Size of holdings (hectares)	Number of holdings			Area of holdings ( <sup>0</sup> 000 hectares)		
	1928	1969	1974	1928	1969	1974
Under 20 .. ..	3 164	2 241	1 874	23	19	16
20 and under 40 ..	2 108	1 457	1 247	59	42	35
40 " " 202 ..	4 779	4 624	4 212	443	427	395
202 " " 405 ..	726	950	949	240	267	267
405 " " 2 023 ..	775	888	883	647	754	740
2 023 " " 4 047 ..	146	124	116	412	339	313
4 047 " " 8 094 ..	67	68	60	374	372	322
8 094 " " 20 234 ..	29	27	28	329	300	302
20 234 and over ..	5	5	6	155	146	171
Total .. ..	11 799	10 384	9 375	2 684	2 667	2 561

### Number of Holdings with Crops or Livestock

At 31 March 1974, there were 9 375 agricultural holdings (compared with 10 949 in 1964). The following table shows the number of holdings growing selected principal crops or carrying livestock; this gives some indication of farming activities on a broad basis only, since the same holding may be included more than once in the figures (in an extreme case, one holding could be included 11 times):

Number of Holdings Growing Principal Crops or Carrying Livestock

Particulars	1963-64	1970-71	1971-72	1972-73	1973-74
Number of agricultural holdings .. ..	10 949	9 926	9 807	9 733	9 375
Holdings—					
Growing—					
Grain (a)—					
Barley .. ..	227	517	475	472	441
Oats .. ..	398	305	238	236	312
Wheat .. ..	251	160	160	147	91
Hops .. ..	108	81	74	73	76
Vegetables (b)—					
Potatoes .. ..	1 741	985	840	651	624
Onions .. ..	20	39	61	54	65
Fruit—					
Orchard tree (b) ..	1 358	1 007	874	768	612
Small fruit (b) ..	528	359	335	268	244
Carrying—					
Cattle .. ..	8 547	8 384	8 363	8 314	8 098
Sheep .. ..	5 255	4 611	4 257	3 973	3 784
Pigs .. ..	3 304	2 134	1 888	1 533	1 185

(a) Eight hectares and over.

(b) 0.4 hectares and over up to 1971-72; 0.5 hectares and over from 1972-73.

It should be noted that a fall in the number of holdings engaged in a particular activity does not necessarily involve decreased total activity. Holdings carrying cattle have decreased over the last 10 years while cattle numbers have doubled in the same period. However, the decline in holdings growing small fruit has been matched by an actual fall in crop area and in total production.

### Land Utilisation on Agricultural Holdings

Agricultural holdings at present occupy 37.5 per cent of Tasmania's area of 6 833 000 hectares; details of land utilisation follow:

Land Utilisation on Agricultural Holdings  
(Hectares)

Particulars of usage	1963-64	1971-72	1972-73	1973-74
Crops (excluding sown pastures harvested) (a)	97 849	66 617	79 859	73 908
Fallow (b)	31 681	11 091	11 309	(b)
Sown pastures (c)	612 106	852 279	855 649	919 784
Balance (used mainly for grazing)	1 839 246	1 676 947	1 644 732	1 567 025
Total area of all holdings	2 580 882	2 606 934	2 591 549	2 560 717

(a) Excludes area of sown pasture harvested; includes orchards and small fruits.

(b) Excludes short period or summer fallow. Not collected for 1974; included in 'Balance'.

(c) Includes area harvested. Lucerne is classified to sown pastures.

### Definition of 'Crops'

'Crops' as specified in the previous table, refers only to cultivated fields and orcharding land. However, it is reasonable to regard as a crop the yield obtained from harvesting sown pastures. The next table shows the total area of crops, using this wider definition and taking account of double-cropping:

Total Area of Crops  
(Hectares)

Area	1963-64	1971-72	1972-73	1973-74
Area used for crops (a)	97 849	66 617	79 859	73 908
Area double cropped	1 511	2 794	3 052	2 575
Sown pastures harvested (b)	60 456	80 762	54 777	97 164
Total area of crops	159 816	150 173	137 688	173 647

(a) As shown in previous table.

(b) See text below.

In 1971-72 and 1972-73, no details of the area of pasture cut for silage and green feed were collected. In this and the previous table, lucerne is classified as a sown pasture.

### Definition of 'Sown Pasture'

The next table shows the total area of sown pasture and distinguishes between areas cut for various purposes and areas simply grazed:

**Sown Pasture: Classification of Total Area  
(Hectares)**

Particulars	1963-64	1971-72	1972-73	1973-74
Pasture harvested—				
Hay .. .. .	52 443	78 701	53 937	88 884
Seed .. .. .	1 511	2 061	840	3 982
Green feed or silage .. .. .	6 502	<i>n.a.</i>	<i>n.a.</i>	4 298
Total pastures harvested .. ..	60 456	80 762	54 777	97 164
Pastures not harvested .. .. .	551 650	771 518	800 872	822 620
Total sown pasture .. .. .	612 106	852 279	855 649	919 784

**Trend in Land Utilisation**

The total area of agricultural holdings is still approximately the same as it was at the end of World War I. The most striking change is the rapid development of sown pasture, the previous table showing a 50 per cent increase in the decade ending 1973-74. In 1944-45 the area of sown pasture was under 180 000 hectares; it passed 500 000 hectares in 1958-59 and exceeded 800 000 hectares in 1969-70. A substantial increase has also occurred in the area of sown pasture harvested.

Grain crops are no longer the dominant item and many primary producers, through their development of sown pasture, have become grassland farmers with the mower and pick-up baler as their main 'harvesting' machines (as opposed to headers and strippers on ploughed fields). The trend to grassland farming has meant greatly increased capacity to carry stock, the numbers of sheep having doubled and cattle trebled since World War II. In the decade ending 1973-74, sheep increased 10 per cent from 3.6 to 4.0 million, cattle by 96 per cent from 450 000 to 884 000. (Sheep numbers reached their highest level, 4.6 million, in 1969-70.)

*Temporary and Permanent Pasture*

It should be noted that some of the areas included as sown pasture are 'temporary' in the sense that they may be put under crop after some years of use for grazing. In the same sense, specific areas used for crops in any year are also 'temporary' since they may later be converted to sown pasture. This rotational pattern, characteristic of much of Tasmania's mixed farming, obviously is designed to maintain soil fertility at a high level and to guard against the soil exhaustion associated with the earlier era of intense cultivation of cash crops. 'Ley' farming is the technical term for this rotational method. Farm statistics for 1973-74 show the area of sown pasture as 919 784 hectares.

**CROPS**

Sufficient has been said on land utilisation to emphasise the trend to grassland farming. In the summary table below, showing the area devoted to the principal crop types, the area of sown pasture *cut* for hay, seed, silage or green feed is attributed to the appropriate crop, e.g. as a component of pasture hay or green feed.

The table shows that the total area of pasture crops (harvested for hay, seed, green feed and silage) varies significantly from season to season.

**Area of Principal Crops: Summary**  
(Hectares)

Crop	1963-64	1971-72	1972-73	1973-74
<b>Section 1 (a)—</b>				
Cereals for grain .. .. .	25 017	23 589	23 558	22 826
Legumes mainly for grain .. .. .	4 733	1 684	1 334	1 317
Crops for hay (b) .. .. .	8 114	2 475	4 450	3 040
Crops for green feed or silage (c) .. .. .	40 978	22 116	33 849	30 731
Fruit—Orchard tree .. .. .	8 084	7 188	6 608	5 414
Berry and small .. .. .	874	634	615	582
Vegetables for sale for human consumption .. .. .	10 236	9 968	10 237	10 288
Hops .. .. .	627	539	616	703
Oil poppies .. .. .	(d)	810	1 220	854
Other crops .. .. .	697	409	430	727
Total section 1 (e) .. .. .	99 360	69 411	r 82 912	76 483
<b>Section 2—</b>				
Pasture harvested for hay, seed, green feed or silage (f)—				
Pasture hay .. .. .	52 443	78 701	53 937	88 884
Pasture seed .. .. .	1 511	2 061	840	3 982
Pasture harvested for green feed or silage	6 502	n.a.	n.a.	4 298
Total section 2 .. .. .	60 456	(g)80 762	(g)54 777	97 164
Total area of crops .. .. .	159 816	(g)150 173	(g)137 688	173 647

(a) Section 1 excludes pastures harvested for hay, seed, green feed or silage; details for these are given in section 2.

(b) Excludes pasture hay; see section 2.

(c) Includes vegetables for stock feed but excludes pastures harvested for green feed or silage; see section 2.

(d) Prior to 1970-71 oil poppies were included in 'Other crops'.

(e) Includes land double cropped; in 1973-74 area involved was 2 575 hectares.

(f) Includes lucerne harvested.

(g) Excludes pasture harvested for green feed or silage.

Details of individual crops, their area, production and yield per hectare, are shown in the next table:

**Crops: Area, Production and Yield Per Hectare, 1973-74**

Crop	Area (hectares)	Production		
		Unit of quantity	Total	Yield per hectare
Cereals for grain—				
Barley .. .. .	11 121	tonnes	23 790	2.13
Oats .. .. .	9 173	”	8 247	0.89
Rye .. .. .	11	”	16	1.45
Wheat .. .. .	2 521	”	3 510	1.39
Legumes mainly for grain—				
Beans—Navy (haricot) .. .. .	267	tonnes	271	1.01
Horse .. .. .	11	”	6	0.53
Field peas—Blue .. .. .	587	”	1 027	1.74
Grey and other .. .. .	451	”	723	1.60

## Crops: Area, Production and Yield Per Hectare, 1973-74—continued

Crop	Area (hectares)	Production		
		Unit of quantity	Total	Yield per hectare
Hay—				
Pasture (incl. lucerne) .. .. .	88 884	tonnes	448 355	5.04
Oaten .. .. .	2 324	„	9 743	4.19
Other .. .. .	716	„	3 361	4.69
Orchard tree fruit—				
Bearing—				
Apples .. .. .	4 148	'000 bush.	5 948	1.43
Apricots .. .. .	79	„	20	0.26
Pears .. .. .	278	„	309	1.11
Other .. .. .	28	„	..	..
Non-bearing .. .. .	880	„	..	..
Berry and small fruit—				
Bearing—				
Currants (black and red) .. ..	216	tonnes	865	4.00
Gooseberries .. .. .	7	„	60	8.25
Loganberries .. .. .	39	„	239	6.11
Raspberries .. .. .	179	„	946	5.28
Strawberries .. .. .	15	„	103	6.85
Non-bearing .. .. .	126	„	..	..
Vegetables for human consumption—				
Beans, French and runner .. ..	1 089	tonnes	8 840	8.11
Peas, green (a)—				
For processing .. .. .	4 750	„	17 139	3.61
Sold in pod .. .. .	11	„	18	1.54
Potatoes .. .. .	3 127	„	62 866	20.10
Turnips, swede and white .. ..	205	„	2 923	14.29
Other .. .. .	1 106	„	..	..
Pasture seed (incl. lucerne) .. ..	3 982	kg	1 129 932	283.75
Other crops—				
Hops (b) .. .. .	703	tonnes	1 949	2.77
Oil poppies (c) .. .. .	854	„	n.p.	n.p.

(a) Ex-shell weight.

(b) Production is expressed as dry weight.

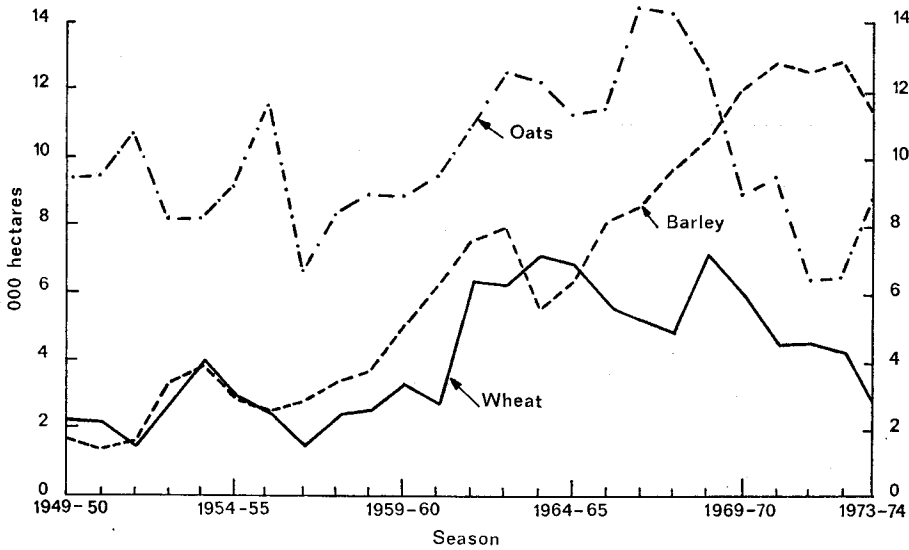
(c) In the 1975 Year Book the area of poppies (1 220 hectares) for 1972-73 was incorrectly reported in the production column.

## Principal Crops

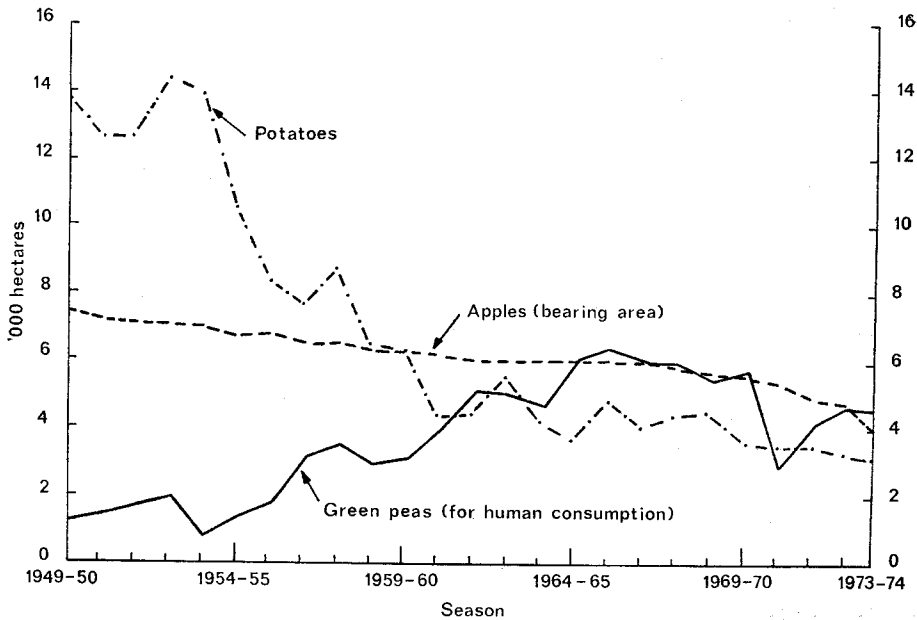
The data on area and production of crops are compiled, in general, to give totals for each municipality. In subsequent parts of this chapter dealing with geographical distribution, the information is presented only in statistical divisions; however, the Hobart and Southern Division totals have been combined since the Hobart Division is basically a concept related to a population which is predominantly urban in character. A description of the Tasmanian statistical divisions and sub-divisions appears in chapter 2.

Trends in areas of six of the more important crops over the last 25 years are shown in the following graphs:

Area of Selected Cereals for Grain, Tasmania, 1949-50 to 1973-74



Area of Selected Crops, Tasmania, 1949-50 to 1973-74



### Summary of Principal Crops

The following tables, which summarise the area of selected principal crops and give details of production for recent years, illustrate: (i) the increasing importance of barley for grain, and French and runner beans for processing; and (ii) the declining importance of potatoes and small fruit.

## Selected Principal Crops: Area and Production

Crop	1963-64	1969-70	1970-71	1971-72	1972-73	1973-74
AREA (HECTARES)						
Barley for grain .. .. .	5 581	12 016	12 884	12 576	12 802	11 121
Oats for grain .. .. .	12 280	8 971	9 444	6 432	6 477	9 173
Wheat for grain .. .. .	7 107	5 962	4 479	4 570	4 251	2 521
Total hay .. .. .	60 557	69 526	85 653	81 176	58 387	91 924
Field peas .. .. .	4 444	2 309	2 497	1 445	1 146	1 038
Pasture seed .. .. .	1 511	1 833	2 060	2 061	840	3 982
Hops (a) .. .. .	627	596	530	539	616	703
Beans, French and runner .. .. .	200	638	569	723	738	1 089
Peas, green—						
For processing .. .. .	4 809	5 904	3 013	4 290	4 779	4 750
Sold in pod .. .. .	75	47	23	12	21	11
Potatoes .. .. .	4 373	3 791	3 640	3 593	3 330	3 127
Orchard (tree) bearing—						
Apples .. .. .	6 291	5 804	5 715	5 218	4 980	4 148
Pears .. .. .	591	493	448	385	345	278
Berry and small fruit, bearing—						
Currants (black and red) .. .. .	396	234	238	238	232	216
Loganberries .. .. .	67	41	38	42	38	39
Raspberries .. .. .	305	209	227	206	198	179
Strawberries .. .. .	32	26	19	21	24	15
PRODUCTION						
Barley for grain .. .. tonnes	9 395	24 844	29 763	27 696	18 711	23 790
Oats for grain .. .. tonnes	15 307	8 254	8 820	7 050	7 144	8 247
Wheat for grain .. .. tonnes	13 139	9 598	7 691	8 357	7 701	3 510
Total hay .. .. tonnes	253 175	367 340	447 746	449 937	233 037	461 459
Field peas .. .. tonnes	5 077	4 762	5 519	2 320	1 047	1 750
Pasture seed .. .. tonnes	374	451	539	432	166	1 130
Hops (b) .. .. tonnes	717	1 268	1 077	1 159	1 450	1 949
Beans, French and runner .. tonnes	1 585	5 095	5 294	5 988	6 237	8 840
Peas, green (c)—						
For processing .. .. tonnes	14 858	29 956	14 875	17 617	18 976	17 139
Sold in pod .. .. tonnes	85	44	24	14	27	18
Potatoes .. .. tonnes	67 486	67 995	72 591	70 370	78 286	62 866
Apples .. .. '000 bush	8 545	7 400	7 373	5 873	7 024	5 948
Pears .. .. '000 bush	625	496	397	296	302	309
Currants (black and red) .. tonnes	1 340	936	1 015	1 140	905	865
Loganberries .. .. tonnes	443	202	230	255	271	239
Raspberries .. .. tonnes	1 742	1 276	1 340	1 311	1 466	946
Strawberries .. .. tonnes	79	103	59	85	112	103

(a) Includes areas not in full bearing.

(b) Dry weight.

(c) Ex-shell weight.

*Cereals for Grain*

The area under barley as a grain crop has tended to increase in recent years, the 1963-64 area being only 5 581 hectares. Larger than usual wheat areas were recorded in 1963-64 (7 107 hectares) and 1968-69 (7 039 hectares) but the 1973-74 area (2 521 hectares) was the lowest for 16 years.

The next table shows the geographical distribution of cereal grain growing:



**Area of Cereals for Grain in Statistical Divisions, 1973-74**  
(Hectares)

Cereals for grain	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Barley ..	4 302	3 900	1 182	5 082	1 737	..	1 737	11 121
Oats ..	3 266	3 147	2 488	5 635	272	..	272	9 173
Rye ..	8	..	3	3	..	..	..	11
Wheat ..	1 209	599	650	1 249	63	..	63	2 521
Total ..	8 785	7 646	4 323	11 969	2 072	..	2 072	22 826

(a) Statistical sub-division.

*Legumes Mainly for Grain*

The geographical distribution of these crops follows:

**Area of Legumes Mainly for Grain in Statistical Divisions, 1973-74**  
(Hectares)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Beans—								
Navy ..	..	182	..	182	85	..	85	267
Horse ..	4	7	..	7	..	..	..	11
Field peas—								
Blue ..	7	531	..	531	49	..	49	587
Grey, etc. ..	30	266	..	266	155	..	155	451

(a) Statistical sub-division.

*Hay and Green Feed*

The following table shows the geographical distribution of hay and green feed crops:

**Area of all Hay and Crops for Green Feed or Silage in Statistical Divisions, 1973-74**  
(Hectares)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Hay—								
Pasture ..	13 902	26 531	14 684	41 215	33 735	32	33 767	88 884
Oaten ..	601	671	432	1 103	620	..	620	2 324
Other ..	247	253	43	296	173	..	173	716
Total ..	14 750	27 455	15 159	42 614	34 528	32	34 560	91 924
Crops for green feed or silage (b) ..	11 048	8 577	8 921	17 498	6 417	66	6 483	35 029

(a) Statistical sub-division.

(b) Includes vegetables for stock feed and pasture harvested for green feed or silage.

The North Western sub-division, with the largest area devoted to sown pastures, produces approximately 40 per cent of the State's hay. Its predominance in area under hay and green feed crops can be related to the fact that it carries about 40 per cent of the State's cattle and is the principal dairying area.

The principal green feed crop is oats (nearly half of total green feed area); other green feed crops include soft turnips, rape, chou moellier, barley, millet, rye-corn and wheat.

#### *Orchard Tree Fruit and Berry and Small Fruit*

The geographical distribution of orchards and berry and small fruit areas is shown below:

**Area of Orchard Tree and Berry and Small Fruit in Statistical Divisions, 1973-74**  
(Hectares)

Type	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Orchard tree fruit ..	4 148	954	14	968	299	..	299	5 414
Berry and small fruit ..	572	5	3	7	3	..	3	582

(a) Statistical sub-division.

Orcharding is heavily concentrated in and around the Huon Valley (Southern Statistical Division); the other main area is in the Tamar Valley (Northern Division). Berry and small fruit growing is almost entirely confined to the Derwent and Huon Valleys.

In the period from 1948-49 State production of berry and small fruit has dropped by over two-thirds. In spite of this Tasmania is still a principal producer of raspberries and black and red currants and also makes an important contribution to other small fruit production.

#### **Principal Small Fruits: Area and Production**

Year	Currants (black and red)		Loganberries		Raspberries		Strawberries	
	Bearing area	Pro-duction	Bearing area	Pro-duction	Bearing area	Pro-duction	Bearing area	Pro-duction
	hectares	'000 kg	hectares	'000 kg	hectares	'000 kg	hectares	'000 kg
1948-49 (a) ..	812	2 735	86	380	844	3 449	101	395
1969-70 ..	234	936	41	202	209	1 276	26	103
1970-71 ..	238	1 015	38	230	227	1 340	19	59
1971-72 ..	238	1 140	42	255	206	1 311	21	85
1972-73 ..	232	905	38	271	198	1 466	24	112
1973-74 ..	216	865	39	239	179	946	15	103

(a) Representative year from period when small fruit areas were at record level.

The gross value of the apple crop continues to represent about one-third of the total gross value of crops; however, the actual value of the apple crop has declined considerably in recent years. The next table gives recent details of area, production and average yield and illustrates the effect of economic problems confronting the industry.

## Apples: Area and Production

Season	Area		Number of trees		Production		
	Bearing	Non-bearing	Bearing	Non-bearing	Total	Yield	
						Per hectare	Per bearing tree
	hectares	hectares	'000	'000	'000 bush	bush	bush
1969-70 .. ..	5 804	1 418	2 150	525	7 400	1 275	3.44
1970-71 .. ..	5 715	1 425	2 124	530	7 373	1 290	3.47
1971-72 .. ..	5 218	1 358	2 015	524	5 873	1 125	2.91
1972-73 .. ..	4 980	1 097	1 977	435	7 024	1 410	3.55
1973-74 .. ..	4 148	837	1 647	332	5 948	1 434	3.61

After World War I, the apple area was 10 500 hectares but the decline in area since then has been offset to a large extent by greatly increased average yield per hectare. Although the area planted with apples in New South Wales and Victoria is greater than in Tasmania the much higher average yields in Tasmania (1 434 bushels per hectare in 1973-74) have caused production of apples to exceed that of any other state. The higher yields, which are more than twice those in some states, can be attributed to several factors including a much greater density of trees and the greater use of irrigation.

In the 1967-68 season, devaluation of sterling threatened to reduce the return to exporters and the Australian Government outlined a scheme in May 1968, the main provision being 50 cents devaluation compensation for each bushel of apples exported and 53 cents for each bushel of pears exported. Compensation was continued for the 1968-69 season, but at the reduced rate of 40 cents per bushel for apples and 50 cents for pears. In 1969-70 compensation was paid at the same rate as in the 1967-68 season. As a result of the December 1972 revaluation of the Australian dollar, compensation of 30 cents per bushel (up to a maximum of 5 000 bushels per grower) was offered to overseas exporters of apples and pears.

Commencing with the 1970-71 export season the Australian Government's *Apple and Pear Stabilization Act* came into effect. The Act's provisions are designed to reduce the financial risks involved in the overseas export of fruit. Amounts paid under the scheme were: 1970-71, \$1 664 000; 1971-72, \$1 955 000; 1972-73, \$1 787 000 (r); 1973-74, \$2 033 000.

In addition, in the 1973-74 season, a subsidy of \$3 180 000 was paid under the *Apple Industry (Assistance) Act* 1974. This amount was provided by equal contributions from the Australian and Tasmanian Governments.

A wide variety of apples is produced in Tasmania but many only in small quantities. Of the total production of 5 948 000 bushels in 1973-74, four varieties accounted for 65 per cent (democrat, 22 per cent; granny smith, 17 per cent; jonathan, 13 per cent; and sturmer pippin, 13 per cent).

Concurrent with increasing economic problems facing the apple industry the number of apple trees planted has decreased markedly. In 1966 total tree plantings were 108 000 comprising: (i) replacement plantings in existing orchards for trees removed, 38 000; (ii) trees planted in new orchard areas, 70 000. In 1974 plantings were only 13 000 trees (10 000 replacement plantings and 3 000 trees in new orchard areas).

The next table shows tree plantings during 1973 and 1974 in new orchard areas and replacement plantings in existing orchard areas.

**Apple and Pear Trees Planted According to Variety  
(Number)**

Variety	1973			1974		
	In existing orchards (a)	In new orchards	Total	In existing orchards (a)	In new orchards	Total
<b>APPLES</b>						
Jonathan .. .. .	1 122	..	1 122	24	..	24
Sturmer pippin .. .. .	1 184	..	1 184	14	..	14
Democrat .. .. .	4 427	200	4 627	377	390	767
Granny smith .. .. .	4 034	1 240	5 274	800	270	1 070
Cleopatra .. .. .	331	57	388	..	..	..
Delicious—Golden .. .. .	1 794	300	2 094	464	20	484
Other .. .. .	10 499	4 222	14 721	7 083	1 810	8 893
Other .. .. .	1 254	1 128	2 382	1 411	460	1 871
Total .. .. .	24 645	7 147	31 792	10 173	2 950	13 123
<b>PEARS</b>						
Packhams triumph .. .. .	1 201	19	1 220	31	144	175
Winter cole .. .. .	1 259	..	1 259	..	19	19
Beurre bosc .. .. .	971	..	971	247	61	308
Other .. .. .	945	..	945	..	..	..
Total .. .. .	4 376	19	4 395	278	224	502

(a) Trees planted as replacements for trees removed.

*Vegetables for Sale for Human Consumption*

As previous area and production tables indicated, there has been a decline in potato growing; the next table traces the history of this crop since 1860:

**Potatoes: Area Under Crop and Total Production, Selected Years**

Year	Area	Production		Year	Area	Production	
		Total	Yield per hectare			Total	Yield per hectare
	hectares	tonnes	tonnes		hectares	tonnes	tonnes
1860-61 ..	3 084	34 128	11.07	1930-31 ..	15 066	96 818	6.43
1870-71 ..	3 975	36 606	9.21	1940-41 ..	15 121	115 844	7.66
1880-81 ..	4 217	33 070	7.84	1944-45 (a)	32 817	350 773	10.69
1890-91 ..	8 148	74 332	9.12	1950-51 ..	12 780	125 990	9.86
1900-01 ..	9 335	95 368	10.22	1960-61 ..	4 401	39 677	9.02
1910-11 ..	10 615	71 215	6.71	1970-71 ..	3 640	72 591	19.94
1920-21 ..	12 950	90 102	6.96	1973-74 ..	3 127	62 866	20.10

(a) Peak area and production year.

Potato growing was for many years a major activity in the North Western Sub-division and even in 1973-74, 83 per cent of the area and 87 per cent of the production of the State's potato crop was located in that area. The size of the Tasmanian potato crop has always been influenced by the demand from other states, in particular New South Wales. In 1945-46, over 166 000 tonnes were



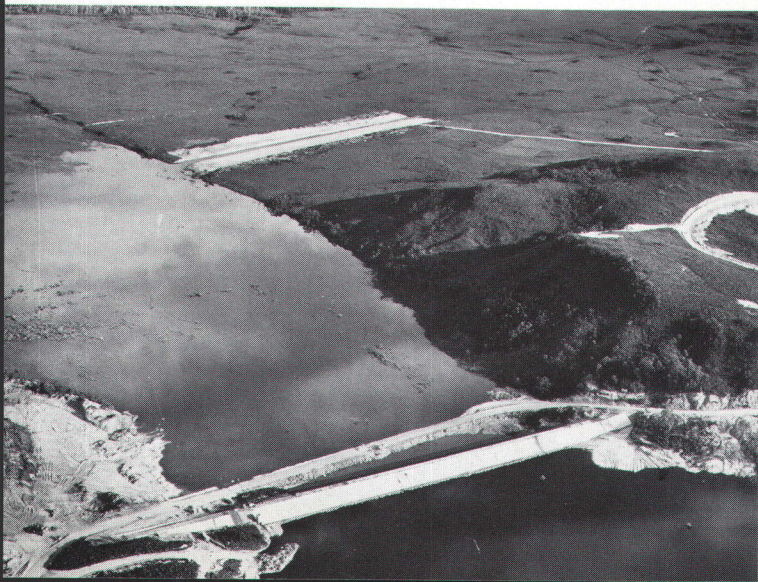
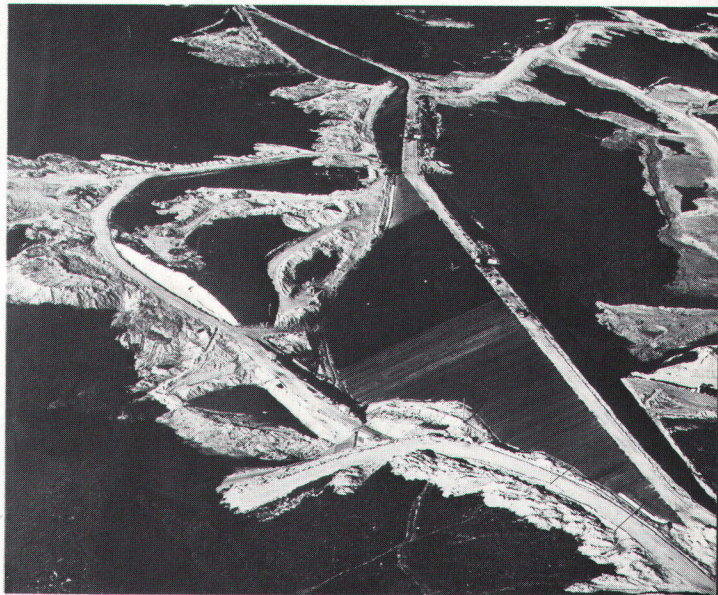


*Gordon Dam Construction, February 1971*

*[Vern Reid]*

*Sealing Scott's Peak Dam*

*[Vern Reid]*



*Edgar Dam, Lake Pedder*

*[Vern Reid]*





*Lake Pedder filling—original Lake Pedder is in the background*

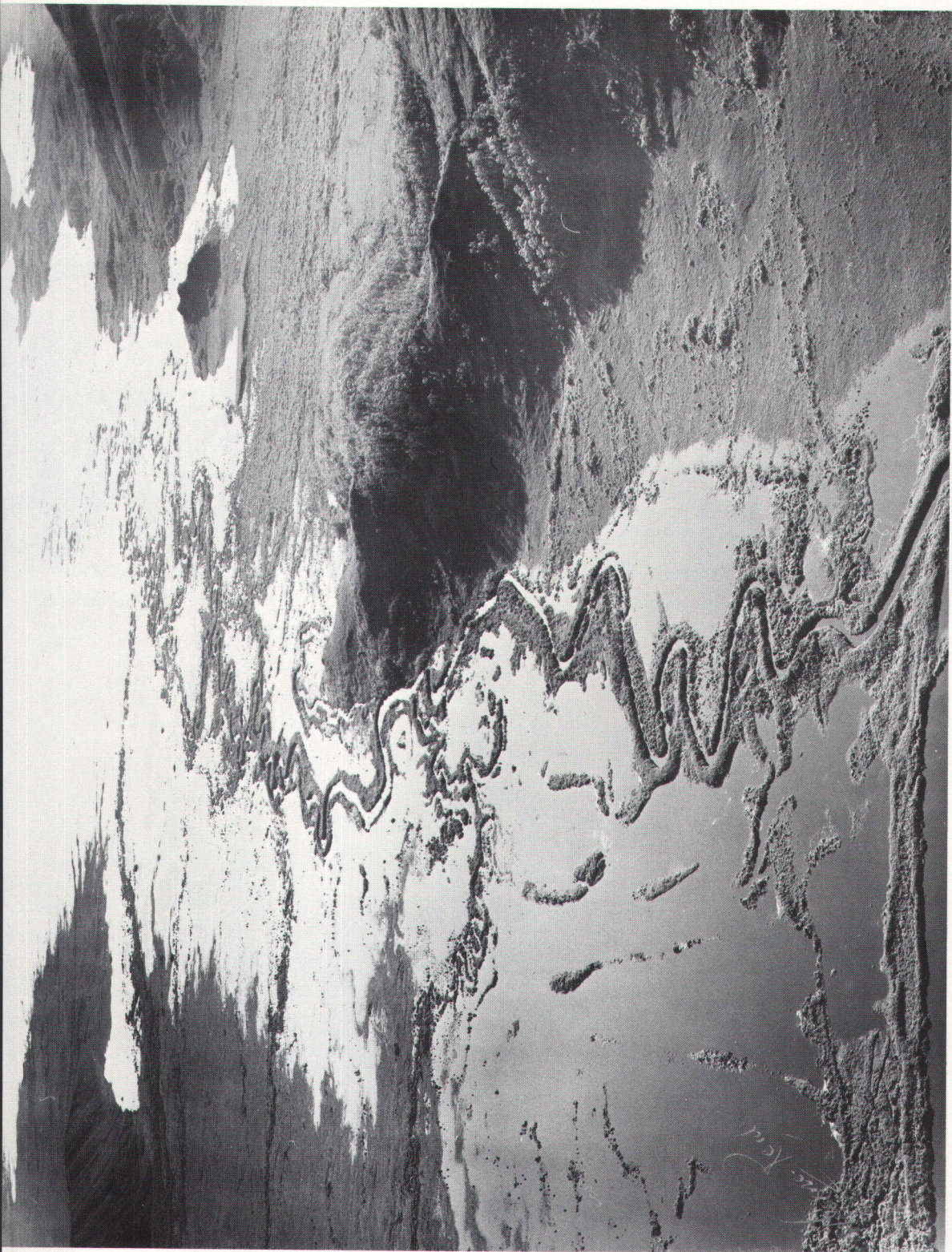
*[Vern Reid]*

*New Lake Pedder in August 1973*

*[Vern Reid]*



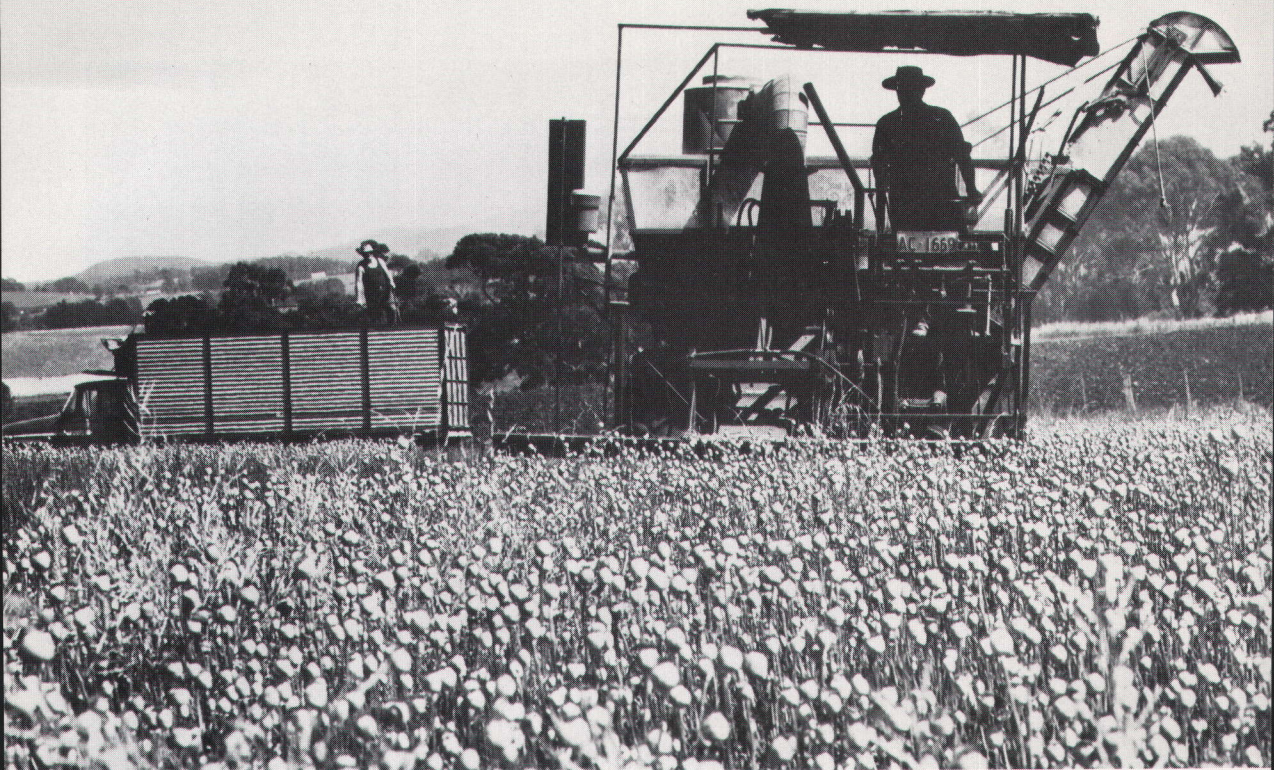




*Looking towards Strathgordon along the Gordon River as the new lake fills*

*[Vern Reid]*





*Harvesting oil poppies near Lower Barrington*

*[The Advocate, Burnie]*

*Rural scene, North-West Coast*

*[Dept of Film Production]*





exported; annual exports from 1960-61 to 1968-69 ranged between 28 000 and 39 000 tonnes but in 1973-74 they were only 15 901 tonnes. The considerably increased yield per hectare in recent years has been due mainly to the greater use of irrigation and artificial fertilisers. In 1973-74, 69 per cent of the State potato crop was irrigated compared with only 18 per cent 10 years earlier. (See 'Technical Aspects of the Agricultural Industry' later in this chapter.)

Statistics relating to potato varieties were collected for the first time in 1973-74. As is shown in the following table kennebec is the principal variety accounting for 77.6 per cent of total production.

Potato Varieties, 1973-74

Variety	Area	Production	Average yield
	hectares	tonnes	tonnes per hectare
Bismark .. .. .	287	3 391	11.83
Brownell .. .. .	371	5 331	14.36
Kennebec .. .. .	2 136	48 803	22.84
Pink eye .. .. .	93	730	7.85
Pontiac .. .. .	97	1 704	17.63
Russet burbank .. .. .	36	1 033	28.77
Up to date .. .. .	52	470	9.01
Other .. .. .	55	1 404	25.48
Total .. .. .	3 127	62 866	20.10

The decline in the export crop has been largely offset by increased opportunities for disposing of potatoes and other vegetable crops to dehydrating, canning and deep freezing plants developed on the north-west coast and in the Scottsdale area since World War II. The principal vegetable crop currently grown for processing is green peas; in 1973-74 the area of peas planted for processing was 4 750 hectares. A demand by processing establishments also exists for other vegetables. In 1973-74, 1 089 hectares of French and runner beans were grown compared with only 200 hectares 10 years earlier. The production from all but six hectares of the 1973-74 bean crop was for processing factories.

The concentration of vegetable growing in certain areas of the State is illustrated in the following table:

Vegetables for Sale for Human Consumption (a)  
Area Under Selected Crops in Statistical Divisions, 1973-74  
(Hectares)

Crop	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (b)	North Eastern (b)	Total	North Western (b)	Western (b)	Total	
Beans, French and runner	1	3	42	45	1 043	..	1 043	1 089
Peas, green ..	7	1 709	175	1 884	2 870	..	2 870	4 761
Potatoes ..	258	85	184	269	2 595	7	2 601	3 127
Turnips, swede and white ..	53	7	20	27	124	..	124	205
Other vegetables ..	194	91	143	234	678	..	678	1 106
Total ..	514	1 895	564	2 459	7 309	7	7 316	10 288

(a) Includes vegetables for processing.

(b) Statistical sub-division.

*Hops*

One of Tasmania's principal industrial crops is hops, grown mainly in the Derwent Valley in the municipalities of New Norfolk and Hamilton with significant areas also in Ringarooma and Scottsdale in the north-east of the State.

In 1973-74 both the area under hops and production reached record levels with 703 hectares producing 1 949 tonnes of hops, a 35 per cent increase on 1972-73.

Production of hops decreased markedly after the previous record crop in 1968-69 when growers experienced difficulties with disposal of their crop. In recent years production has recovered but with the record production level of 1973-74 and the withdrawal from the market of an important selling agent, growers have again had difficulty in disposing of their crop, much of which was stockpiled awaiting possible markets normally readily found overseas and interstate.

The most popular variety of hops is the 'pride of ringwood' which accounted for 97 per cent of all hills (plants) in 1974, compared with 82 per cent two years earlier.

Tasmania has for many years been the principal Australian grower of hops, producing about 70 per cent of the crop. However, increased production in Victoria in recent years has further aggravated marketing problems for Tasmanian growers. In 1974 Tasmania's contribution was 68 per cent.

The next table shows details of area, production and value over a five-year period.

**Hops: Area, Production and Value**

Season	Number of growers	Total area	Production		
			Total (a)	Yield per hectare (a)	Value
		hectares	'000 kg	kg	\$'000
1969-70 .. .. .	r100	596	1 268	2 128	2 143
1970-71 .. .. .	81	530	1 077	2 032	1 820
1971-72 .. .. .	r74	539	1 159	2 149	2 186
1972-73 .. .. .	r73	616	1 450	2 353	2 844
1973-74 .. .. .	76	703	1 949	2 772	3 213

(a) Dry weight.

*Oil Poppies*

Oil poppies are a relatively new cash crop in Tasmania. Initially they were grown on the mid north-west coast, but more recently oil poppies have been grown in other parts of the State.

In 1973-74 the distribution of oil poppies was: Hobart and Southern statistical divisions, 213 hectares; Northern, 332 hectares; and Mersey-Lyell, 310 hectares. Wet weather interfered with sowing the 1973-74 crop and the total area of 854 hectares was 366 hectares less than in 1972-73.

Oil poppies, which provide the raw material in the production of codeine, are at present restricted to Tasmania and with a new processing plant planned for Westbury in addition to the present one at Latrobe, a significant increase in the area of poppies would be necessary to satisfy projected demand.

*Pasture Seed*

The geographical distribution (in hectares) of areas yielding pasture seed in 1973-74 was as follows: Northern, 2 922; Southern, 540; Mersey-Lyell, 499; Hobart, 21; total, 3 982. The area of pasture seed fluctuates widely depending on farming conditions; in 1972-73 only 840 hectares yielded seed.

The main seed varieties produced on Tasmanian farms during the past five years are listed in the following table:

**Pasture Seed Production (a)**  
(kg)

Type of grass	1969-70	1970-71	1971-72	1972-73	1973-74
Clover—White .. ..	26 011	52 834	45 324	6 643	22 197
Red .. ..	17 882	31 294	2 880	..	6 217
Subterranean .. ..	102	..	..	..	..
Other .. ..	965	2 489	14 461	..	1 360
Ryegrass—Perennial .. ..	319 851	305 322	212 917	75 338	563 870
H.1. .. ..	45 671	53 952	56 309	19 146	86 713
Italian .. ..	22 302	33 631	57 022	35 929	399 425
Cocksfoot .. ..	2 743	23 064	1 905	336	11 157
Lucerne .. ..	2 083	610	4 790	1 830	8 801
Other .. ..	13 463	35 968	36 008	26 331	30 192
Total .. ..	451 074	539 165	431 616	165 553	1 129 932

(a) Includes all pasture seed harvested, whether as a separate crop or from an area sown to grain crops.

*'All Other Crops'*

In the table 'Area of Principal Crops' the item 'Other crops' (727 hectares in 1973-74) includes lavender, flower seeds, cut flowers, rape seed and a variety of other crops grown for seed.

**LIVESTOCK****Introduction**

This subject is dealt with in two parts: (i) Number of Livestock on Agricultural Holdings; and (ii) Livestock Products.

The first part needs no comment but the second part (Livestock Products) requires explanation. In relation to the various types of livestock, the following products are included:

*Cattle*—meat, milk, butter, cheese. *Sheep*—meat, wool.

*Pigs*—meat.

*Poultry*—meat, eggs.

Butter, meat and cheese, although regarded as manufacturing industry products, are included in the section 'Livestock Products', which follows later in the chapter, because the pattern and scale of livestock farming is closely linked to the processing of these products.

**Number of Livestock on Agricultural Holdings**

The following summary table shows the number of livestock on agricultural holdings since 1860. The table highlights the increasing importance of cattle relative to the slower growth (and eventual decline) in sheep numbers.

## Livestock on Agricultural Holdings: Selected Years

Year	Horses	Cattle	Sheep	Pigs
	no.	no.	'000	no.
1860 (a) .. .. .	21 034	83 366	1 701	31 290
1870 .. .. .	22 679	101 459	1 350	49 432
1880 .. .. .	25 267	127 187	1 794	48 029
1890 .. .. .	31 165	162 440	1 619	81 716
1900 .. .. .	31 607	165 516	1 684	68 291
1910 .. .. .	41 388	201 854	1 788	63 715
1919-20 .. .. .	39 452	214 442	1 781	35 530
1929-30 (b) .. .. .	34 336	214 643	2 091	52 899
1939-40 (b) .. .. .	29 605	252 484	2 677	44 941
1949-50 (c) .. .. .	21 197	274 740	2 170	35 841
1959-60 .. .. .	10 512	375 342	3 494	67 118
1969-70 .. .. .	6 478	646 439	4 560	111 275
1973-74 .. .. .	n.a.	884 201	3 964	68 379
Tasmanian numbers as proportion of Australian total (1973-74) ..	% n.a.	% 2.9	% 2.7	% 2.7

(a) At varying dates to 1919-20.

(b) At 31 December.

(c) At 31 March from 1949-50.

## Cattle

## Classification

The traditional way of classifying cattle has been to call them either 'dairy' or 'beef' cattle but this has possibly been confusing since the terms may refer to either *purpose* or *breed*. In the period 1942-43 to 1962-63, the annual farm census required this dissection but the terms were not defined. As from 1963-64 the cattle groupings have been as follows: (i) bulls classified by *breed*; (ii) 'house cows' specified separately; and (iii) all other cattle classified according to *purpose* (i.e. milk production or meat production). The results of the 1972-73 and 1973-74 farm censuses are given in the following table which closely follows the lay-out of the collection form and provides an analysis in which it is possible to isolate the number of cows and heifers directly associated with dairying:

## Classification of Cattle on Agricultural Holdings at 31 March

	Description	1973	1974
<b>Bulls</b> used or intended for service	Dairy breed bulls (1 year and over) .. ..	2 860	2 808
	Beef breed bulls (1 year and over) .. ..	11 778	11 580
	Bull calves (under 1 year) intended for service—		
	Dairy breed bull calves .. ..	1 506	1 207
	Beef breed bull calves .. ..	5 551	4 562
<b>Cows and</b> <b>heifers</b> used or intended for production (for sale) of <b>milk and cream</b>	Cows—In milk at 31 March .. ..	123 984	116 169
	Dry at 31 March .. ..	30 839	24 232
	Heifers (1 year and over) .. ..	36 380	35 559
	Heifers calves (under 1 year) .. ..	40 957	36 911
<b>House cows (in milk and dry) and heifers (1 year and over) being kept primarily for own milk supply .. ..</b>		<b>3 889</b>	<b>3 444</b>
<b>Cattle and calves</b> (not included above) mainly for meat <b>production</b>	Cows and heifers (1 year and over) .. ..	286 109	293 831
	Calves (under 1 year) including vealers .. ..	240 475	223 544
	Other (1 year and over) i.e. steers, bullocks, etc.	116 161	130 354
<b>Total cattle and calves for all purposes .. ..</b>		<b>900 489</b>	<b>884 201</b>

The total of 'Cows and heifers used or intended for production (for sale) of milk and cream' in the previous table (212 871) can be associated directly with the dairying industry. Similarly the total of 'Cattle and calves, mainly for meat production' (647 729) can be associated directly with the beef cattle industry. The previous change in classification makes it impossible to compare, in full detail, the description of cattle in 1964-65 and subsequent years with descriptions reported in previous years but the following table is compiled to show broad groups regarded as generally comparable:

Description of Cattle on Agricultural Holdings at 31 March

Year	Number of holdings with cattle	Bulls (1 year and over)	Cows and heifers (1 year and over)	Calves (under 1 year)	Other	Total cattle
1950 .. ..	9 759	6 186	158 424	60 601	49 529	274 740
1955 .. ..	9 668	7 002	194 016	78 252	40 147	319 417
1960 .. ..	9 031	7 237	229 162	100 849	38 094	375 342
1965 .. ..	8 384	(a)8 311	283 955	119 455	39 750	451 471
1970 .. ..	8 405	10 812	378 836	200 588	56 203	646 439
1971 .. ..	8 384	12 188	420 738	229 500	70 984	733 410
1972 .. ..	8 363	13 769	458 785	261 703	95 062	829 319
1973 .. ..	8 314	14 638	481 201	288 489	116 161	900 489
1974 .. ..	8 098	14 388	473 235	266 224	130 354	884 201

(a) The specification of 'Bull calves (under 1 year)' from 1963-64 may have affected the comparability of the series.

The distribution of holdings with cattle is shown below:

Distribution of Cattle in Statistical Divisions, 31 March 1974

Statistical division or sub-division	Number of holdings with cattle	Total dairy cattle (a)	Total beef cattle (b)	Total cattle
Hobart and Southern .. ..	2 362	17 879	145 744	163 623
Northern—				
Tamar .. ..	1 877	50 680	164 675	215 355
North Eastern .. ..	815	26 708	149 693	176 401
Total .. ..	2 692	77 388	314 368	391 756
Mersey-Lyell—				
North Western .. ..	3 031	125 053	202 525	327 578
Western .. ..	13	10	1 234	1 244
Total .. ..	3 044	125 063	203 759	328 822
Total Tasmania .. ..	8 098	220 330	663 871	884 201

(a) Includes dairy breed bulls and bull calves, cows and heifers used or intended for production of milk and cream for sale and house cows.

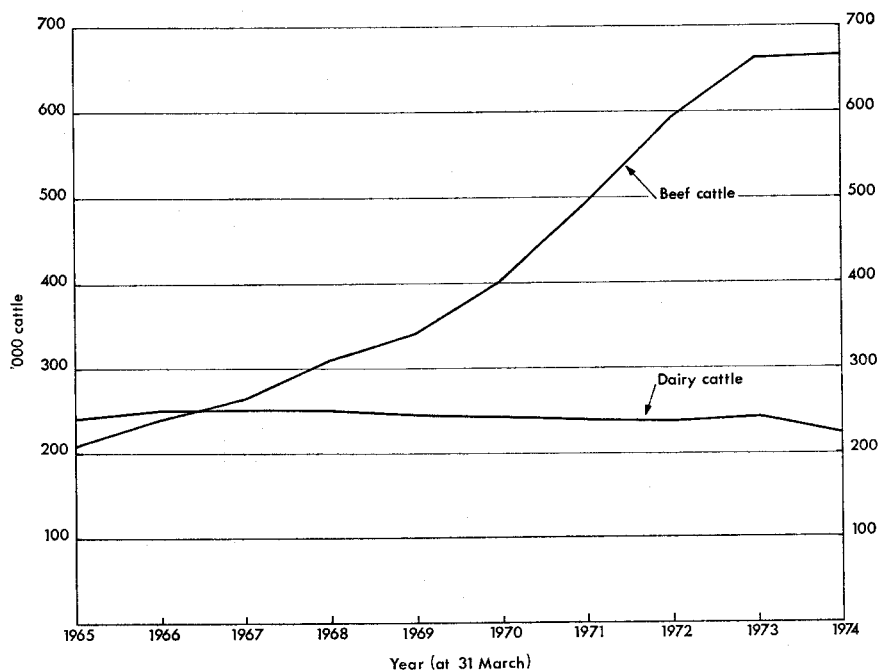
(b) Includes beef breed bulls and bull calves and other cattle and calves mainly for meat production.

### Breeds of Cattle

The main breeds of cattle in Tasmania for milk production are jersey, friesland and ayrshire with small numbers of milking shorthorn and guernsey, while breeds used for the production of beef are hereford, aberdeen angus, shorthorn and devon. In recent years, new cattle lines such as the brahmans, murray greys and charolais have been introduced by farmers wishing to utilise the advantages of cross-breeding.

The following graph gives an indication of the recent trend in numbers of cattle according to their association with the beef industry or the dairy industry. Details of the classification used are given in the notes to the last table. For the years 1964 to 1968 there was no split of bull calves between beef and dairy so this has been estimated in the graph.

**Numbers of Beef and Dairy Cattle, Tasmania, 1965 to 1974**  
(Cattle Mainly for Meat Production and Cattle Mainly for Milk Production)



### Sheep

The table below shows the trend in sheep numbers on agricultural holdings since 1951:

**Sheep on Agricultural Holdings at 31 March**  
(<sup>'000</sup>)

Year	Sheep	Year	Sheep	Year	Sheep	Year	Sheep
1951	2 182	1957	2 943	1963	3 570	1969	4 395
1952	2 338	1958	3 298	1964	3 600	1970	4 560
1953	2 422	1959	3 536	1965	3 793	1971	4 517
1954	2 465	1960	3 494	1966	4 127	1972	4 237
1955	2 595	1961	3 439	1967	4 321	1973	3 824
1956	2 673	1962	3 532	1968	4 428	1974	3 964

The next table shows the geographical distribution and various descriptions of sheep and also details of the lambing season:

## Description of Sheep at 31 March 1974 and Lambing, 1973 Season, in Statistical Divisions

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Holdings with sheep .. no.	1 364	1 127	492	1 619	800	1	801	3 784
Sheep ('000)—								
Rams (1 year and over)	18.6	13.5	11.6	25.1	3.3	..	3.3	47.0
Breeding ewes	774.1	468.4	425.2	893.6	120.1	..	120.1	1 787.8
Other ewes (1 year and over) ..	84.7	44.3	55.2	99.5	9.7	..	9.7	193.9
Wethers (1 year and over) ..	505.4	167.2	244.6	411.8	19.8	..	19.8	937.0
Lambs and hoggets (under 1 year) ..	420.0	245.4	262.7	508.1	69.9	..	69.9	998.1
Total ..	1 802.9	938.9	999.2	1 938.1	222.9	..	222.9	3 963.8
Lambing, 1973 season—								
Ewes mated ('000) ..	650.8	408.5	369.7	778.2	105.6	..	105.6	1 534.6
Lambs marked ('000) ..	568.1	371.4	322.0	693.3	99.3	..	99.3	1 360.7
Marking ratio (%) (b) ..	87.3	90.9	87.1	89.1	94.0	..	94.0	88.7

(a) Statistical sub-division.

(b) Lambs marked as percentage of ewes mated; lamb mortality is one of the factors affecting marking ratios.

The following table summarises the descriptions of sheep on a State basis and also gives details of lambing:

## Description of Sheep at 31 March and Details of Lambing: Summary

Particulars	1964	1969	1970	1971	1972	1973	1974
Holdings with sheep .. no.	5 255	5 096	4 815	4 611	4 257	3 973	3 784
Sheep ('000)—							
Rams (1 year and over) ..	41	50	50	51	50	48	47
Breeding ewes .. ..	1 567	2 023	2 026	1 994	1 841	1 711	1 788
Other ewes (1 year and over) ..	193	174	195	226	265	212	194
Wethers (1 year and over) ..	890	1 041	1 064	1 075	952	895	937
Lambs and hoggets (under 1 year) .. ..	909	1 105	1 225	1 171	1 128	960	998
Total .. ..	3 600	4 395	4 560	4 517	4 237	3 824	3 964
Lambing (a)—							
Ewes mated .. .. '000	1 458	1 736	1 831	1 889	1 805	1 604	1 535
Lambs marked—							
Number .. .. '000	1 353	1 561	1 715	1 705	1 617	1 369	1 361
Marking ratio (b) .. %	92.8	89.9	93.6	90.3	89.6	85.3	88.7

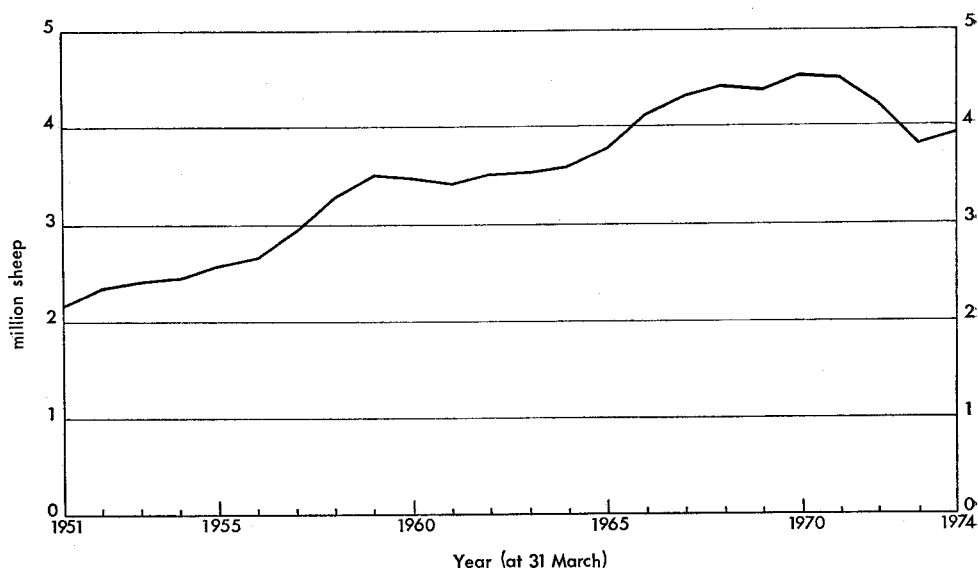
(a) In the season preceding the year named.

(b) Lambs marked as percentage of ewes mated.



The following graph shows the trend in sheep numbers since 1951 and indicates the decline which has occurred since 1970:

Sheep Numbers, Tasmania, 1951 to 1974



### Breeds of Sheep

The merino is the mainstay of the Australian wool industry and accounts for over 75 per cent of the Australian sheep population. However, in Tasmania the predominant sheep breeds are polwarth and corriedale; both were originally developed from merino cross-breeds. A new sheep breed, the 'cormo', has been developed in Tasmania to suit local conditions and to provide a highly fertile breed having a high yield of fine wool and good body conformation.

Over the past 10 years, the breeds of sheep reported by growers have shown a trend in favour of polwarths. Corriedale numbers, after showing a small but consistent increase for some years, are now exhibiting an opposite trend. The following table shows the percentage of the main breeds of sheep (including rams):

Proportion of Breeds of Sheep at 31 March (a)  
(Per Cent)

Breed	1964	1967	1968	1969	1970	1971	1974
Polwarth .. .. .	36.7	39.9	40.5	41.7	42.5	43.6	44.0
Corriedale .. .. .	16.3	19.5	18.0	17.3	15.4	14.4	13.1
Merino .. .. .	9.7	8.0	7.1	7.7	7.9	8.9	10.7
Romney marsh .. .. .	2.3	2.2	2.0	1.9	1.2	1.3	0.7
Other breeds (b) .. .. .	3.5	3.0	3.0	3.3	3.9	4.9	6.3
Comebacks .. .. .	12.2	10.5	10.7	11.1	12.6	11.8	14.8
Cross-breeds .. .. .	19.3	17.0	18.7	17.0	16.4	15.0	10.4
Total .. .. .	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Similar data are not available for 1972 and 1973.

(b) Recognised breeds of sheep which individually, in 1974, accounted for about one per cent or less of all sheep; includes cheviot, dorset horn, border leicester, English leicester, ryeland, south-down, suffolk, lincoln, poll dorset, shropshire and cormo.

The majority of all breeds of sheep are run on improved pastures. However, particularly in the Midlands, use is made of considerable areas of unimproved 'run' country for polwarths, comebacks and merinos. The central plateau also provides summer grazing, particularly for wethers.

### Pigs

The geographical distribution of pigs, by statistical division, is shown in the next table:

**Distribution of Pigs in Statistical Divisions at 31 March 1974**

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (a)	North Eastern (a)	Total	North Western (a)	Western (a)	Total	
Holdings with pigs ..	272	367	158	525	385	3	388	1 185
Pig numbers—								
Boars ..	174	316	147	463	410	4	414	1 051
Breeding sows ..	1 633	2 718	1 330	4 048	4 397	42	4 439	10 120
Other (b) ..	7 978	16 665	8 424	25 089	23 981	160	24 141	57 208
Total pigs	9 785	19 699	9 901	29 600	28 788	206	28 994	68 379

(a) Statistical sub-division.

(b) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

### Pig Population

The pig population at 31 March each year is not, in itself, a very significant figure. It is possible for a sow to produce two litters within the one year and for the offspring to number more than 10 in each litter. It follows, therefore, that the real measure of activity in pig-raising is not so much the size of the pig herd at a particular point in time but rather the number of pigs slaughtered and the dressed carcass weight of the meat so produced; such information is given in the 'Livestock Products' section of this chapter.

In the previous table, the most significant item is the number of breeding sows. A sow can be mated when only nine or ten months old and the gestation period is a mere four months. Piglets are weaned at four to six weeks—this early weaning calls for more skilled management but has the advantages of avoiding heavy weight loss by the sow and reducing the period between litters.

The following table summarises pig numbers:

**Pigs on Agricultural Holdings at 31 March: Summary**

Year	Holdings with pigs	Boars	Breeding sows	Other (a)	Total pigs
1955 .. ..	4 235	1 608	9 065	47 709	58 382
1960 .. ..	3 681	2 075	10 730	54 313	67 118
1965 .. ..	3 315	2 327	14 578	75 116	92 021
1970 .. ..	2 302	1 978	16 629	92 668	111 275
1971 .. ..	2 134	1 839	15 841	94 956	112 636
1972 .. ..	1 888	1 670	14 462	87 802	103 934
1973 .. ..	1 533	1 337	11 990	71 787	85 114
1974 .. ..	1 185	1 051	10 120	57 208	68 379

(a) Includes baconers and porkers, backfatters, stores, weaners, suckers and slips.

## LIVESTOCK PRODUCTS

## Quantity and Value of Livestock Products

The statistics in the following section refer, in the main, to quantities of livestock products. The associated values will be found under 'Value of Production' in chapter 8.

## Wool

In a report in 1836, the Colonial Secretary, John Montagu, described the early export trade in wool: 'It appears that the quantity of Wool imported into England from N.S.W. and Van Diemen's Land in 1810 was 167 lbs; in 1820, it amounted to 99 415 lbs; in 1825, to 323 995 lbs. From 1827, the returns for the two Colonies are separated'.

Prices in 1824 varied from five cents to 10 cents per kilogram but, by 1836 they had increased to range from 30 to 50 cents. The progress of wool production in the remainder of the 19th century can be appreciated from the following table (compiled from export figures, since production details were not collected for the whole period):

Exports of Wool (a) (Overseas and Interstate): Historical Summary  
(<sup>'000</sup> kg)

Year	Quantity	Year	Quantity	Year	Quantity
1835 .. ..	1 102	1860 .. ..	2 058	1885 .. ..	2 619
1840 .. ..	1 650	1865 .. ..	2 233	1890 .. ..	4 075
1845 .. ..	1 661	1870 .. ..	1 881	1895 .. ..	3 276
1850 .. ..	2 669	1875 .. ..	2 812	1900 .. ..	3 064
1855 .. ..	2 657	1880 .. ..	4 094	1905 .. ..	4 339

(a) The figures relate basically to greasy wool but a small proportion of washed wool is included in the later years.

Unfortunately the above series cannot be carried through the period 1910-1922 due to the lack of interstate trade figures, or through the period 1922-1951 because 'pure' greasy wool export figures (i.e. separated from scoured wools and tops and noils) are not available. Export details for recent years are as follows:

Exports of Wool, Greasy (Overseas and Interstate)  
(<sup>'000</sup> kg)

Year	Quantity	Year	Quantity	Year	Quantity
1959-60 ..	12 690	1964-65 .. ..	13 757	1969-70 .. ..	16 513
1960-61 ..	11 069	1965-66 .. ..	15 443	1970-71 .. ..	17 146
1961-62 ..	12 342	1966-67 .. ..	16 240	1971-72 .. ..	20 413
1962-63 ..	11 919	1967-68 .. ..	13 995	1972-73 .. ..	17 735
1963-64 ..	11 379	1968-69 .. ..	15 799	1973-74 .. ..	16 740

It should be noted, however, that not all Tasmanian wool is exported, some being used, after scouring, etc., for manufacturing purposes within the State. Any locally processed wool exported would not be classified under greasy wool.

### Wool Production

For statistical purposes, the total amount of wool produced in the State in any year consists of not only the 'clip' (shorn wool) but also of the wool on skins, irrespective of whether it is actually removed by local fellmongers or exported on skins. Production figures for the latest 10-year period are given in the next table:

Wool Production (a) Summary  
(<sup>000</sup> kg)

Year	Shorn wool (including crutchings)	Fell- mongered and dead wool, and wool exported on skins	Total	Year	Shorn wool (including crutchings)	Fell- mongered and dead wool, and wool exported on skins	Total
1964-65 ..	16 156	1 838	17 994	1969-70 ..	19 409	2 452	21 861
1965-66 ..	16 759	2 227	18 986	1970-71 ..	19 165	2 506	21 670
1966-67 ..	17 548	2 026	19 574	1971-72 ..	18 573	2 490	21 063
1967-68 ..	15 286	2 090	17 376	1972-73 ..	15 973	2 180	18 154
1968-69 ..	18 955	2 344	21 299	1973-74 ..	16 021	1 528	17 549

(a) Fellmongered wool has been converted to greasy wool equivalent weight.

As illustrated in the previous table the shorn wool component accounts for almost 90 per cent of total wool production.

In previous tables, dealing with exports, a gap exists between 1905 and 1950-51 but production statistics are available as follows:

Total Wool Production (a): Historical Summary  
(<sup>000</sup> kg)

Year	Production	Year	Production	Year	Production
1905 .. ..	5 331	1929-30 .. ..	6 804	1954-55 .. ..	10 794
1910 .. ..	6 050	1934-35 .. ..	6 366	1959-60 .. ..	15 241
1914-15 ..	5 465	1939-40 .. ..	8 316	1964-65 .. ..	17 994
1919-20 ..	5 928	1944-45 .. ..	7 404	1969-70 .. ..	21 861
1924-25 ..	5 662	1949-50 .. ..	7 692	1973-74 .. ..	17 549

(a) Total wool production, including shorn, dead and fellmongered wool and wool exported on skins; fellmongered converted to greasy wool equivalent weight.

Total wool production of 21 861 000 kilograms in 1969-70 was the highest recorded wool output for Tasmania. However, uncertain economic conditions in the wool industry for subsequent years have resulted in a substantial decline in wool production.

### Greasy Wool Equivalent

Fellmongered wool included in previous total production figures has been attributed a weight as though it were *greasy* wool, although the original information is received in terms of the weight of *scoured* wool recovered by fellmongering. The method of conversion is as follows: as 100 kg of *greasy* yields 60 kg of *clean*, and 100 kg of *scoured* (fellmongered) yields 80 kg of *clean*, it follows that 100 kg of *scoured* (fellmongered) is equivalent to 133 kg of *greasy*. The factors in the example are only approximations of those which are obtained from woollscourers (*greasy/clean* relativity) and fellmongers (*scoured/clean* relativity). Conversion of such wool to a greasy wool equivalent is necessary to put all the components of total production on a common basis.

*Shorn Wool*

The principal months for shearing in Tasmania are October, November and December, but during the more recent years an increasing number of farmers have been shearing outside the traditional spring period. Such practices not only facilitate flock and property management but also provide more continuous employment for shearers and shed hands. The following table gives shearing details for recent years:

**Shearing and Shorn Wool Obtained**

Year	Numbers shorn			Shorn wool obtained			Average yield		
	Sheep	Lambs	Total	From sheep (a)	From lambs	Total	From sheep (a)	From lambs	Total
	'000	'000	'000	'000 kg	'000 kg	'000 kg	kg	kg	kg
1963-64 ..	3 049	819	3 868	12 638	787	13 425	4.15	0.96	3.47
1969-70 ..	3 753	1 039	4 792	18 210	1 200	19 409	4.85	1.15	4.05
1970-71 ..	3 864	942	4 806	18 045	1 120	19 165	4.67	1.19	3.99
1971-72 ..	3 711	895	4 607	17 441	1 132	18 573	4.69	1.26	4.03
1972-73 ..	3 413	838	4 251	15 038	935	15 973	4.41	1.12	3.76
1973-74 ..	3 280	821	4 101	15 010	1 011	16 021	4.57	1.23	3.90

(a) Includes crutchings from sheep.

The next table shows the geographical distribution of shorn wool production:

**Shearing and Shorn Wool Obtained (a) in Statistical Divisions, 1973-74**

Particulars	Hobart and Southern	Northern			Mersey-Lyell			Total Tasmania
		Tamar (b)	North Eastern (b)	Total	North Western (b)	Western (b)	Total	

**NUMBER SHORN ('000)**

Sheep ..	1 542	749	832	1 581	157	..	157	3 280
Lambs ..	317	220	229	449	55	..	55	821

**SHORN WOOL OBTAINED ('000 kg)**

From—Sheep	6 930	3 392	3 991	7 383	697	..	697	15 010
Lambs	352	278	293	571	88	..	88	1 011
Total ..	7 282	3 670	4 283	7 954	785	..	785	16 021

**AVERAGE YIELD (c) (kg)**

Sheep ..	4.49	4.53	4.79	4.67	4.44	..	4.44	4.57
Lambs ..	1.11	1.26	1.27	1.26	1.60	..	1.60	1.23

(a) Includes crutchings from sheep.

(b) Statistical sub-division.

(c) Per sheep or lamb shorn.

*Wool Auctions*

The bulk of Tasmanian shorn wool is marketed in Hobart and Launceston at auctions organised by wool-selling brokers. Prior to 1969-70 three auction sales were held per year i.e. November, February and May. Approximately one-third of the season's clip was auctioned at the first sale, in excess of 50 per cent at the February sale and the remainder in May.

As from 1969-70 a four-sales season was introduced with sales in October, December, February and June. This move had the effect of creating a more equitable distribution of sales over the selling season although the February sale still remains the most important.

In addition to wool sold at auctions, some wool is bought direct from growers by dealers and by local manufacturers of woollen goods. A small proportion of the State's wool is marketed at Victorian auctions; growers on King Island and Flinders Island tend to use this outlet because of sea transport factors.

The following table shows the average price of shorn greasy wool sold at Tasmanian auctions in selected years since World War II and also the value of all wool produced. The 1950-51 record price (330.80 cents per kg) can be associated with the Korean War and strategic stockpiling but it is significant that the 1970-71 price (74.01 cents) is the lowest recorded since 1946-47. At the 1971-72 wool sales prices rose to 85.96 cents per kg but this was partly due to 'support-buying' by the Australian Wool Commission; however, the 1972-73 sales witnessed an upsurge in demand from overseas buyers and wool prices reached their highest levels (228.90 cents) since the 1950-51 peak. During the 1973-74 wool selling season prices were considerably less than the high prices of 1972-73.

**Tasmanian Average Auction Price and Total Value of Wool Produced**

Year	Average auction price per kg of shorn greasy wool	Total value of wool produced (a)	Year	Average auction price per kg of shorn greasy wool	Total value of wool produced (a)
	cents	\$'000		cents	\$'000
1950-51 .. ..	331	24 226	1965-66 .. ..	124	22 405
1952-53 .. ..	149	12 758	1966-67 .. ..	112	20 983
1956-57 .. ..	158	19 948	1967-68 .. ..	96	15 609
1958-59 .. ..	97	13 688	1968-69 .. ..	106	21 180
1960-61 .. ..	106	14 458	1969-70 .. ..	88	18 081
1961-62 .. ..	107	15 752	1970-71 .. ..	74	14 983
1962-63 .. ..	122	17 772	1971-72 .. ..	86	(b)18 001
1963-64 .. ..	149	21 352	1972-73 .. ..	229	(b)37 481
1964-65 .. ..	109	19 050	1973-74 .. ..	192	31 973

(a) Includes value of shorn wool, fellmongered and dead wool and estimated value of wool exported on skins. Excludes profits of \$3 201 510 arising from the War-time Wool Disposals Plan and distributed to growers in the period 1949-50 to 1954-55.

(b) Includes Government wool deficiency payments of \$1 258 000 in 1971-72 and \$112 000 in 1972-73.

The preceding price series refers only to shorn greasy wool sold at auction. In arriving at the value series for all wool produced, account is taken not only of wool sold at auction but also of direct growers' sales to dealers, manufacturers and fellmongers plus estimated value of wool exported on skins.

*Classification of Greasy Wool Sold at Auction*

The following information is compiled by the Wool Statistical Service of the Australian Wool Corporation on the basis of catalogues of auction sales. Wool sold at auction is classified according to quality which is expressed in terms of average fibre diameter. This is measured in millionths of a metre (microns).

The next table shows the proportions of wool sold at auction for the 1972-73 and 1973-74 seasons by quality categories:

**Mean Micron Analysis (a) of Greasy Wool Sold at Auction**

(Source: Australian Wool Corporation)

Average fibre diameter (mean microns)	Greasy wool sold at auction—percentage of total			
	In Tasmania		In Australia	
	1972-73	1973-74	1972-73	1973-74
Finer than 18 .. .. .	0.2	0.1	..	..
18 .. .. .	1.9	1.3	0.7	0.6
19 .. .. .	2.9	3.4	2.6	2.4
20 .. .. .	2.0	2.4	6.7	6.5
21 .. .. .	5.6	5.6	15.7	14.6
22 .. .. .	13.5	10.9	23.9	19.4
23 .. .. .	13.2	12.1	16.5	16.6
24 .. .. .	14.1	14.4	9.5	10.8
25 .. .. .	12.5	13.3	5.3	6.3
26 .. .. .	7.1	6.8	3.9	4.7
27 .. .. .	8.1	7.3	3.8	4.1
28 .. .. .	4.8	5.2	3.0	3.2
29 .. .. .	0.4	0.9	0.3	0.4
30 .. .. .	6.9	7.6	3.7	4.5
32 .. .. .	..	3.3	..	1.9
33 .. .. .	2.7	0.8	1.5	0.4
34 .. .. .	..	0.7	..	0.4
35 .. .. .	1.1	..	0.4	..
36 .. .. .	..	0.3	..	0.1
38 .. .. .	1.0	0.5	0.5	0.4
Coarser than 38 .. .. .	0.1	0.2	..	..
Oddments .. .. .	2.1	2.9	1.9	2.4
Total .. .. .	100.0	100.0	100.0	100.0

(a) A micron equals one millionth of a metre; the measurement relates to fibre diameter.

*Clean Wool Yield*

In 1973-74 the Tasmanian proportion of auctioned greasy wool classified as 'finer than 25 mean microns' was 50 per cent, whereas the corresponding Australian proportion was 71 per cent. There is usually a difference of this order, but the Tasmanian average price is nevertheless usually a few cents above the Australian auction average. Tasmanian averages, with Australian equivalents in brackets, have been (in cents): 1970-71, 74.01 (64.68); 1971-72, 85.96 (75.25); 1972-73, 228.90 (183.77); 1973-74, 191.82 (181.16). This apparent contradiction is explained by taking into account a second factor, not included in the foregoing quality analysis, namely the yield of clean wool that can be obtained from greasy wool. In respect of this factor, Tasmanian wools tend to yield higher than Australian; both natural and artificial environmental factors operate to the advantage of the Tasmanian clip. Evidence of this peculiarity of Tasmanian wool is provided in the next table:



**Average Clean Yield of Wool Clip, Tasmania and Other Australian States**  
(Source: Australian Wool Corporation)

State of sale (a)	Percentage of clean yield from greasy wool					
	1963-64	1969-70	1970-71	1971-72	1972-73	1973-74
New South Wales .. ..	57.42	56.27	57.49	57.61	57.64	58.33
Victoria .. ..	59.63	59.83	59.19	59.10	59.29	60.24
Queensland .. ..	56.21	53.15	53.30	54.03	54.89	55.96
South Australia .. ..	63.98	53.98	53.49	55.02	54.01	56.77
Western Australia .. ..	55.26	54.17	53.53	54.16	52.29	54.26
Tasmania .. ..	62.93	63.50	63.38	63.83	63.14	65.05
Australia .. ..	57.38	56.61	56.75	56.93	56.43	58.08

(a) Wool from other Australian states is not sold at Tasmanian auctions so, for Tasmania, 'State of sale' and 'State of origin' are virtually the same except that some wool from Tasmania (mainly King and Flinders Islands) is sold at Victorian auctions.

As the previous figures suggest, Tasmanian wool is freer from dust and vegetable matter than wool produced in the other states.

While the proportion of fine wool is comparatively low in the Tasmanian clip (since the State is historically and climatically a producer of crossbred wool), growers offering fine wool sell a high proportion of superfine merino wool at premium prices; this factor also operates to raise Tasmanian average auction prices above the Australian average.

### Meat

#### *Slaughtering*

To fully record the level of meat production for human consumption, statistics should be obtained in respect of operations in abattoirs, other slaughtering establishments and factories; slaughtering on farms also needs to be taken into account. Information on this complete basis did not become available before 1912, previous statistics relating only to slaughtering in Hobart and Launceston. The following table has been compiled to give an indication of slaughtering activity since 1912.

**Stock Slaughtered (a) for Human Consumption: Historical Summary**  
(<sup>000</sup>)

Year	Cattle and calves	Sheep and lambs	Pigs	Year	Cattle and calves	Sheep and lambs	Pigs
1912 ..	29	216	16	1954-55 ..	75	643	79
1915 ..	32	309	32	1959-60 ..	145	1 166	115
1924-25 ..	36	276	55	1964-65 ..	174	987	135
1929-30 ..	35	342	64	1969-70 ..	178	1 297	160
1934-35 ..	38	349	51	1970-71 ..	162	1 394	171
1939-40 ..	48	461	73	1971-72 ..	185	1 475	165
1944-45 ..	47	509	58	1972-73 ..	261	1 278	152
1949-50 ..	58	508	51	1973-74 ..	259	825	116

(a) In all registered slaughtering establishments and on farms.

The next table, compiled on the same basis, analyses the items 'Cattle and calves' and 'Sheep and lambs':

**Stock Slaughtered (a) for Human Consumption**  
(<sup>000</sup>)

Year	Cattle and calves				Sheep and lambs			Pigs
	Bulls, bullocks & steers	Cows and heifers	Calves	Total	Sheep	Lambs	Total	
1966-67 .. ..	52	67	51	170	552	607	1 159	149
1967-68 .. ..	58	66	48	172	600	525	1 125	143
1968-69 .. ..	68	64	45	178	568	673	1 241	139
1969-70 .. ..	79	66	33	178	608	689	1 297	160
1970-71 .. ..	79	61	22	162	713	681	1 394	171
1971-72 .. ..	96	69	19	185	813	662	1 475	165
1972-73 .. ..	125	110	26	261	637	642	1 278	152
1973-74 (b) .. ..	126	104	30	259	336	490	825	116

(a) In all registered slaughtering establishments and on farms.

(b) In 1973-74 the on-farm components of total livestock slaughtered were: cattle and calves, 2 447; sheep and lambs, 67 205; pigs, 1 583.

### Meat Production

Statistics of actual carcass weight rather than numbers of stock slaughtered provide a more precise measure of actual meat production and annual trends. The necessary weight data are collected from abattoirs, factories and licensed slaughter-houses (including 'country butchers'); in the case of livestock killed on farms, only the numbers are available and the resulting carcass weight has to be estimated. Statistics in terms of carcass weight cover the same field as the previous tables on slaughtering. The following tables show details of slaughtering:

**Production of Meat: Historical Summary**  
(<sup>000 tonnes—Carcass Weight)</sup>

Year	Beef and veal	Mutton and lamb	Pigmeat (a)	Total meat	Year	Beef and veal	Mutton and lamb	Pigmeat (a)	Total meat
1924-25 ..	8.2	5.1	2.5	15.9	1959-60 ..	23.5	21.1	5.4	50.1
1929-30 ..	8.1	6.1	2.8	17.1	1964-65 ..	26.7	18.4	6.7	51.8
1934-35 ..	8.2	6.1	2.4	16.6	1969-70 ..	31.5	24.0	8.0	63.6
1939-40 ..	10.8	7.8	3.6	22.2	1970-71 ..	29.9	26.1	8.5	64.5
1944-45 ..	9.3	9.3	3.1	21.8	1971-72 ..	34.8	27.2	8.3	70.3
1949-50 ..	12.5	9.1	2.6	24.1	1972-73 ..	47.5	22.5	7.4	77.4
1954-55 ..	13.9	12.1	3.5	29.5	1973-74 ..	46.3	14.8	5.5	66.5

(a) Includes pork for manufacture into bacon and ham.

**Production of Meat**  
(<sup>000 tonnes—Carcass Weight)</sup>

Year	Beef and veal			Mutton and lamb			Pigmeat (a)	Total meat
	Beef	Veal	Total	Mutton	Lamb	Total		
1968-69 .. ..	27.6	0.8	28.4	11.7	11.1	22.8	7.1	58.3
1969-70 .. ..	30.9	0.6	31.5	12.8	11.3	24.0	8.0	63.6
1970-71 .. ..	29.5	0.4	29.9	14.8	11.3	26.1	8.5	64.5
1971-72 .. ..	34.4	0.4	34.8	16.3	10.9	27.2	8.3	70.3
1972-73 .. ..	46.9	0.5	47.5	12.2	10.3	22.5	7.4	77.4
1973-74 .. ..	45.7	0.6	46.3	6.7	8.1	14.8	5.5	66.5

a) Includes pork for manufacture into bacon and ham.

*Export of Meat*

As early as 1890, other Australian states were exporting frozen (and later, chilled) lamb, mutton, beef and veal to overseas destinations but the development of a similar meat export trade from Tasmania has been of comparatively recent origin. The first major step was in the field of fat lamb production when the 1931-32 season resulted in approximately 19 000 carcasses being exported overseas. Unfortunately the establishment of this activity coincided with the economic depression of the 1930's and the attempt to introduce a new line in 'mixed' farming was at first discouraged by low prices. World War II saw a revival of demand with over 100 000 carcasses exported overseas in 1943-44, and after something of a decline in the early post-war period, exports climbed to 161 815 carcasses in 1959-60. In recent years lamb exports have included greater proportions of processed cuts and therefore statistics of the number of lamb carcasses exported are no longer collected.

The other major development has been the growth of an export trade in beef and veal, the first shipments overseas commencing in 1954-55; also exports of mutton, mainly to Japan and U.S.A., increased substantially in 1965-66 and have been maintained at a high level since then. The following are meat export figures expressed in tonnes. Export weights cannot be directly compared with production weights since the former include boneless meat and meat which has had its fat content reduced, while the latter are in terms of carcass weight.

**Total Exports of Meat, 1973-74**  
(Tonnes)

Destination	Beef and veal	Lamb	Mutton	Pork	Offal (edible)	Bacon and ham
Interstate .. ..	2 826	160	225	1 330	63	164
Overseas .. ..	14 370	229	1 920	..	965	n.a.
Total .. ..	17 197	389	2 145	1 330	1 028	164

The importance of Tasmania's overseas meat trade can be judged from Australian Meat Board estimates of the percentage of Tasmanian production actually exported. The trend in recent years is shown in the following table:

**Proportion of Tasmanian Meat Production Exported Overseas(a)**  
(Source: Australian Meat Board)  
(Per Cent)

Type of meat	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
Beef and veal .. ..	30.9	34.6	32.2	44.0	r44.2	47.1
Mutton .. ..	49.4	47.5	43.1	59.6	r53.7	39.9
Lamb .. ..	8.8	10.1	6.6	6.0	r8.4	1.7

(a) The estimated percentages are derived by converting actual export weights to a carcass weight equivalent, thus giving a basis for comparison with production figures.

*Meat Export Works*

In 1973-74 there were eight licensed exporters in Tasmania. These were in Launceston (two), Camdale, Devonport, Hobart, Longford, Smithton and King Island.

*Bacon and Ham*

In the tables on meat production, the product from pig slaughtering has been referred to as 'pigmeat'. Approximately 35 per cent of Tasmania's pigmeat was converted in Tasmania to bacon and ham in 1973-74. Considerable quantities of pigmeat are also exported and used, in part, for making bacon and ham in other states. The next table summarises the production of bacon and ham since 1939-40:

**Production of Bacon and Ham  
(Tonnes)**

Year	Bacon and ham			Year	Bacon and ham		
	Factory (a)	Farm	Total		Factory (a)	Farm	Total (b)
1939-40 ..	1 160	152	1 313	1964-65 ..	1 177	13	1 190
1944-45 ..	1 140	69	1 209	1969-70 ..	1 403	n.a.	1 403
1949-50 ..	963	44	1 007	1971-72 ..	(c) 1 984	n.a.	(c) 1 984
1954-55 ..	1 008	36	1 044	1972-73 ..	1 902	n.a.	1 902
1959-60 ..	1 138	24	1 162	1973-74 ..	1 931	n.a.	1 931

(a) From 1959-60 includes small quantities made in establishments not classified as factories.

(b) Excludes farm production from 1967-68.

(c) From 1971-72 all weights are on a bone-in basis; earlier figures include an element of unconverted bone-out weights.

**Dairy Products**

In 1973-74 Tasmania's production of milk was 421 814 000 litres which was approximately 10 per cent below the record level of 1969-70. Milk used for cheese manufacture increased from one per cent of total milk production in 1960-61 to 20 per cent during 1973-74.

The following table summarises milk production and utilisation since 1964-65:

**Milk Production and Milk Utilisation: Summary**

Year	Quantity of milk used for—			Total milk production	Dairy cows at 31 March	Average annual production of milk per dairy cow (b)
	Factory butter	Factory cheese	Other purposes (a)			
	'000 litres	'000 litres	'000 litres	'000 litres	no.	litres
1964-65 ..	293 773	23 935	79 361	397 069	143 257	2 678
1965-66 ..	295 914	29 968	73 674	399 556	148 452	2 628
1966-67 ..	302 406	38 237	74 951	415 594	149 148	2 687
1967-68 ..	291 159	47 316	74 279	412 753	152 179	2 641
1968-69 ..	329 801	58 358	76 288	464 447	152 894	2 941
1969-70 ..	336 715	54 194	78 306	469 216	155 040	2 955
1970-71 ..	314 121	55 681	79 988	449 790	153 402	2 837
1971-72 ..	314 503	59 172	77 452	451 127	154 825	2 853
1972-73 ..	264 392	72 342	87 108	423 841	154 823	2 671
1973-74 ..	252 766	84 662	84 386	421 814	140 401	2 788

(a) Milk used for 'Other purposes' goes into the making of cream, ice cream, milk powder, concentrated milk, and other preserved milk products. It includes milk consumed as such and the milk equivalent of farm-made butter and cheese.

(b) Average annual yield is based on the estimated number of dairy cows, including house cows, which were in milk during any part of the year. (The mean of the number of dairy cows and house cows at 31 March in the year of production and in the preceding year is used for this purpose.) The figures should therefore be treated as an index rather than as an actual average quantity of milk produced per dairy cow.

*Production of Butter and Cheese*

The Australian dairy industry is capable of producing butter and cheese in quantities considerably greater than are required for domestic consumption but competition from other countries in overseas markets has resulted in low prices which tend to discourage exports. The solution to this problem has been, in general terms, to pool the returns from both domestic sales and overseas sales and to distribute from the pool to each individual factory, irrespective of whether its products are sold at home or abroad; in effect, a process of price equalisation operates, the higher domestic price being used to offset the lower overseas price. The administrative body implementing this scheme is the Commonwealth Dairy Produce Equalisation Committee Ltd.

The industry has received subsidies from the Australian Government under the provisions of the various Dairy Industry Assistance Acts, the first of which was passed in 1942. Under the sixth five-year plan, which commenced on 1 July 1972, subsidies have been distributed each year by the Commonwealth Dairy Produce Equalisation Committee Ltd through factories to milk producers by payment on butter and cheese manufactured. However, in the 1973-74 Budget the Australian Government announced its intention to phase out bounties paid on the production of butter and cheese. In 1972-73 the Australian Government provided subsidy was \$27m; in 1973-74, \$18m, reducing to \$9m in 1974-75 (the final year of payment).

Farmers in the past traditionally 'separated' their milk, producing a cream concentrate for delivery to the butter factory; the residue, skim milk, was used to feed pigs. Most factories now buy whole milk because they have diversified their output to include casein (a raw material for synthetic fibres, etc.) and dried skim milk.

Although Tasmanian butter factories had been in operation before the turn of the century it was not till 1911 that annual factory production exceeded 1 000 tonnes and even by 1938-39 factory butter output was only approximately 4 000 tonnes; current production approximates 12 000 tonnes.

Cheese production, which did not exceed 1 000 tonnes per annum until 1963-64, has accelerated rapidly and exceeded 8 400 tonnes in 1973-74.

The following table shows details of factory production of butter and cheese for recent years:

**Factory Production of Butter and Cheese**  
(Tonnes)

Year	Butter (a)	Cheese	Year	Butter (a)	Cheese
1964-65 .. ..	14 126	2 388	1969-70 .. ..	16 343	5 407
1965-66 .. ..	14 229	2 989	1970-71 .. ..	15 273	5 556
1966-67 .. ..	14 541	3 822	1971-72 .. ..	15 318	5 923
1967-68 .. ..	13 999	4 724	1972-73 .. ..	12 947	7 218
1968-69 .. ..	16 017	5 820	1973-74 .. ..	12 398	8 475

(a) Includes butter equivalent of butter oil.

*Consumption of Butter*

Over the past decade there has been a substantial decline in the annual Tasmanian per capita consumption of butter. The decline may be partly attributed to the greater use of margarine. However, in 1973-74 the State's average butter consumption of 10.5 kg per head of population was well above the Australian figure of about 7.9 kg per person.

*Disposal of Butter*

Tasmania is a butter exporting state as shown in the following table:

**Butter (a): Production, Exports and Local Consumption**  
(Tonnes)

Year	Production (factory)	Net exports (b)	Local consump- tion (c)	Year	Production (factory)	Net exports (b)	Local consump- tion (c)
1964-65 ..	(d) 14 224	10 395	4 600	1969-70 ..	16 343	12 763	4 725
1965-66 ..	14 229	9 444	4 460	1970-71 ..	15 273	10 955	4 665
1966-67 ..	14 541	10 241	4 479	1971-72 ..	15 318	10 138	4 712
1967-68 ..	13 999	9 547	4 773	1972-73 ..	12 947	7 514	4 452
1968-69 ..	16 017	9 350	4 519	1973-74 ..	12 398	8 323	4 176

(a) Includes butter equivalent of butter oil.

(b) Net and gross are identical as there were no imports during the years shown. Includes overseas and interstate exports.

(c) Quantity of butter released for the Tasmanian market (as supplied by the Commonwealth Dairy Produce Equalisation Committee Ltd) less the butter content of major commodities exported.

(d) Includes farm production.

**Bee-farming**

The next table, which summarises bee-keeping statistics over a period of 10 years, is restricted to details from apiarists with five or more hives:

**Bee-farming**

Year	Apiarists	Hives	Honey produced		Beeswax produced	
			Quantity	Average per productive hive	Quantity	Average per productive hive
	no.	no.	'000 kg	kg	'000 kg	kg
1964-65 .. .. .	202	8 373	324	51.9	4.6	0.73
1965-66 .. .. .	229	9 305	286	42.7	3.6	0.54
1966-67 .. .. .	223	9 668	175	26.8	3.0	0.45
1967-68 .. .. .	232	9 799	381	51.8	5.8	0.78
1968-69 .. .. .	213	9 210	304	41.6	4.8	0.66
1969-70 .. .. .	220	10 209	372	46.9	5.7	0.72
1970-71 .. .. .	277	11 680	455	48.9	6.4	0.69
1971-72 .. .. .	270	12 484	396	40.6	6.2	0.63
1972-73 .. .. .	243	11 926	418	44.8	5.6	0.60
1973-74 .. .. .	234	13 715	487	43.7	6.9	0.62

Of the 234 apiarists with five or more hives in 1973-74, 26 with 100 or more hives contributed 82.2 per cent of the total honey produced.

A proportion of the larger commercial apiarists can be described as 'migratory' in the sense that they seasonally move their hives for access to leatherwood growing in the Western Sub-division and near the new Lake Gordon. Leatherwood, *Eucryphia lucida*, from which a distinctively flavoured honey is produced, is unique to Tasmania. The quantity of leatherwood honey produced varies considerably from year to year depending upon the amount of blossom and weather conditions. In 1973-74 it accounted for 59 per cent of total honey production compared with only 21 per cent in 1966-67. The sources of honey for the Tasmanian market and estimated honey consumption per head of population are shown in the following table:

## Production and Consumption of Honey

Average for three years ended—	Production	Imports	Exports	Balance available for local consumption (a)	Estimated average consumption per person
	'000 kg	'000 kg	'000 kg	'000 kg	kg
1963-64 .. .. .	221	64	55	230	0.63
1973-74 .. .. .	434	104	246	292	0.74

(a) Production plus imports less exports.

## Poultry Farming

**Household Production:** Many householders have small flocks of up to 20 birds (i.e. below the legal minimum requiring registration and payment of fees) and surveys suggest that these 'back-yard' flocks may produce up to 50 per cent of all eggs. However, no accurate statistics are available for this component and it is excluded from the tables that follow.

**Commercial Producers:** Producers with small flocks over the legal minimum size (more than 20 birds) may nevertheless keep them mainly for their own use rather than for the sale of eggs and accordingly it was also decided to exclude from the statistics, producers with less than 100 birds (of all types); the Bureau's 1966-67 census of the poultry industry established that producers with between 20 and 100 birds numbered 213 but owned only three per cent of the total number of hens and laying pullets in commercial flocks in Tasmania.

In the poultry industry, as in many other primary industries, there has been a trend to fewer but larger establishments in recent years. In 1967 there were 196 poultry farms with a total of 189 600 hens and laying pullets; by 1974 the number of farms had decreased to 102 with 214 600 hens and laying pullets and 494 000 other poultry. A size classification of the 102 farms in 1974 shows that 25 farms (only 25 per cent of farm numbers) possessed 77 per cent of the laying stock. Some 50 per cent of the poultry farms had less than 500 laying birds each.

Poultry Numbers and Egg Production, 1973-74  
Commercial Producers Only (a)

Statistical division	Poultry farms	Poultry numbers at end of year			Eggs produced during year (b)
		Hens and laying pullets (c)	Other fowls	Ducks and drakes, turkeys and geese	
	no.	'000	'000	'000	'000 doz.
Hobart .. .. .	22	63.1	39.0	n.p.	1 085.6
Southern .. .. .	28	70.6	377.1	..	985.6
Northern .. .. .	29	52.2	62.5	n.p.	885.9
Mersey-Lyell .. .. .	23	28.7	14.5	n.p.	436.6
Total Tasmania ..	102	214.6	493.0	1.1	3 393.7

(a) Includes only producers with a total of 100 or more birds of all kinds.

(b) Hen and pullet eggs only. Includes 7 614 dozen eggs produced by commercial poultry farms which ceased production before 30 June 1974.

(c) Not comparable with Egg Marketing Board series due to different definitions.



*Poultry Slaughtering*

Poultry slaughtering statistics were first collected in 1960-61 from all known establishments slaughtering 100 or more birds (of all types) annually; up to 1964-65, only numbers slaughtered were sought but from 1965-66 data were expanded to include both live and dressed weight.

Number and Weight of Poultry Slaughtered (a)

Year	Number	Live weight		Dressed weight (b)	
		Total	Average per bird	Total	Average per bird
	'000	'000 kg	kg	'000 kg	kg
CHICKENS (c)					
1971-72 .. .. .	1 402	2 236	1.6	1 570	1.1
1972-73 .. .. .	1 558	2 521	1.6	1 850	1.2
1973-74 .. .. .	1 756	2 832	1.6	1 961	1.1
OTHER FOWLS (d)					
1971-72 .. .. .	138	311	2.3	206	1.5
1972-73 .. .. .	84	186	2.2	124	1.5
1973-74 .. .. .	111	246	2.2	160	1.4
DUCKS AND DRAKES, TURKEYS AND GEES					
1971-72 .. .. .	20	66	3.3	49	2.5
1972-73 .. .. .	30	94	3.1	71	2.4
1973-74 .. .. .	12	45	3.6	34	2.7

(a) Includes only establishments slaughtering 100 or more birds of all kinds.

(b) Includes weight of whole birds, pieces and giblets.

(c) Includes broilers, fryers and roasters.

(d) Hens, roosters, etc.

The trend in poultry slaughtering in recent years has been towards larger establishments. In 1965-66 there were 95 establishments slaughtering 100 or more birds (of all types). Nine establishments killing more than 5 000 birds each a year slaughtered a total of 606 000 birds. By 1973-74, however, there were only 30 establishments killing 100 or more birds, eight of which slaughtered over 20 000 birds each, or a total of 1 851 000 birds. The dressed carcass weight of birds produced in those establishments slaughtering over 20 000 birds was 2 082 000 kg; for all establishments in the table, the total was 2 121 000 kg. In 1965-66 the over 20 000 birds size-group accounted for 83.3 per cent of the number of birds slaughtered and in 1973-74, 98.5 per cent.

A principal factor in creating a larger poultry slaughtering industry has been the marketing of quick-frozen birds through supermarkets, delicatessens, grocers, etc. Before freezing cabinets were in general use, poultry was mainly sold by butchers; refrigeration techniques have had the effect of multiplying the sales outlets. Large scale production has also cut unit costs.

### Size Structure of Slaughtering Industry

The following table classifies poultry slaughtering establishments according to the number of birds slaughtered for establishments slaughtering 100 or more birds of all types per year:

**Number of Poultry Slaughtered According to Size of Establishment, 1973-74**

Size of establishment (number of birds slaughtered) (a)	Number of establish- ments	Number of birds slaughtered			Total birds slaughtered	
		Chickens (b)	Other fowls (c)	Ducks and drakes, turkeys and geese	Number	Proportions of total
		'000	'000	'000	'000	per cent
100- 500 .. .. .	10	1	1	..	2	0.1
501- 1 000 .. .. .	3	1	1	..	2	0.1
1 001- 1 500 .. .. .	3	..	4	..	4	0.2
1 501- 2 000 .. .. .	1	1	1	..	2	0.1
2 001-20 000 .. .. .	5	6	13	..	19	1.0
Over 20 000 .. .. .	8	1 749	90	12	1 851	98.5
Total .. .. .	30	1 756	111	12	1 880	100.0

(a) Classified according to number of birds of all kinds slaughtered.

(b) Includes broilers, fryers and roasters.

(c) Hens, roosters, etc.

## RURAL POPULATION AND EMPLOYMENT

### Employment on Agricultural Holdings

The following table gives details of males working on agricultural holdings as reported in the annual farm census at 31 March:

**Male Farm Workers at 31 March**

Particulars	1964	1970	1971	1972	1973	1974
Number of agricultural holdings (a) ..	10 949	10 159	9 926	9 807	9 733	9 375
Permanent full-time workers—						
Owners, lessees or share farmers ..	7 685	6 760	6 652	6 515	6 349	6 190
Relatives of owners, etc. (over fifteen years) not receiving wages .. .. .	40	..	..	..	..	..
Employees (b) .. .. .	4 038	3 485	3 082	3 166	2 975	2 678
Total .. .. .	11 763	10 245	9 734	9 681	9 324	8 868
Temporary workers on wages or contract ..	5 733	4 609	4 703	4 179	4 169	4 256

(a) Mainly one hectare or more—see 'Agricultural Industry Statistics—Agricultural Holdings' earlier in this chapter.

(b) Includes managers and relatives receiving wages or salaries.

### Female Workers on Agricultural Holdings

Similar details of female employment are not available due to a definitional difficulty in establishing in what degree a woman performing ordinary domestic duties on an agricultural holding performs other agricultural tasks that justify her classification as a permanent full-time rural worker, in the same sense that the term is applied to a male.

## TECHNICAL ASPECTS OF AGRICULTURAL INDUSTRY

## Area of Land Irrigated

*Comparison*

In 1972-73, 0.6 million hectares of land were irrigated in Victoria and 0.7 million hectares in N.S.W. By way of contrast, the Tasmanian total was only 27 647 hectares. Owing to the generally more reliable rainfall in Tasmania, scarcity of water is not such a problem as it is in the other Australian states, although quite a number of streams are not permanently flowing and drought conditions in some areas of Tasmania are not unknown.

*Cressy-Longford Irrigation Scheme*

The first stage of the Cressy-Longford Irrigation Scheme, which involves diversion of water from the Poatina tailrace became operational in 1972. Apart from the privately operated Lawrenny Estate scheme the Cressy-Longford scheme is the only large scale irrigation works in Tasmania utilising a common water supply. The scheme has over 95 kilometres of earthen channels and provides irrigation for approximately 8 000 hectares—there are 64 farmers who are direct participants in the scheme. The flow of two downstream rivers is augmented, increasing the available irrigation water to downstream farmers.

The cost of the scheme was \$1.15m of which the Australian Government's share was \$750 000.

*Area Irrigated*

A total of 1 616 farms reported the use of irrigation in 1973-74 compared with 1 949 in the previous year. Details of the area of crops and pastures irrigated in Tasmania are shown in the following table:

Area of Crops and Pasture Irrigated  
(Hectares)

Year	Crop (a)						Pasture	Total
	Hops	Green feed	Fruit	Potatoes	Other vegetables	Other crops		
1964-65 ..	628	1 045	2 410	909	2 451	704	5 744	13 890
1965-66 ..	617	1 598	2 930	1 706	3 552	744	7 143	18 290
1966-67 ..	605	2 199	3 354	1 659	3 593	373	7 329	19 111
1967-68 ..	642	2 539	3 659	2 382	4 620	1 157	11 810	26 808
1968-69 ..	627	1 531	3 301	2 556	4 329	1 046	9 375	22 764
1969-70 ..	583	2 065	3 101	2 193	4 771	1 250	10 291	24 252
1970-71 ..	504	1 434	2 014	1 908	2 547	956	9 142	18 505
1971-72 ..	(b)	(b)	2 993	2 253	2 792	1 868	9 951	19 857
1972-73 ..	(b)	(b)	3 301	2 313	4 841	2 641	14 551	27 647
1973-74 ..	(b)	(b)	3 014	2 167	3 702	1 704	12 789	23 376

(a) Excludes pasture crops which are included with 'pasture'

(b) Not available separately. Included with 'Other crops'.

*Irrigation Methods and Sources of Water*

In 1967-68, for the first time, statistics of irrigation methods and source of water used for irrigation were collected. The main method of irrigation is by 'spray' which accounted for 74 per cent of the total area irrigated in 1973-74. The following table gives details of the areas of crops, etc. irrigated and the methods of irrigation used:

Methods of Irrigation, 1973-74  
(Hectares)

Crop or pasture irrigated	Method				Total
	Sprays	Furrows	Flood	Other and multiple methods (a)	
Crop—					
Potatoes .. .. .	2 157	6	..	4	2 167
Other vegetables .. .. .	3 630	10	..	62	3 702
Fruit .. .. .	2 559	23	108	324	3 014
Other (b) .. .. .	1 382	179	92	51	1 704
Pasture (incl. lucerne) .. .. .	7 575	236	4 713	265	12 789
Total .. .. .	17 303	454	4 913	706	23 376

(a) Includes 163 hectares of fruit watered by the 'trickle' method of irrigation.

(b) Excludes pastures harvested.

Potatoes respond particularly well to irrigation—yields from irrigated crops frequently exceed 25 tonnes per hectare. For the 1973-74 season the State average potato yield from irrigated areas was 23.7 tonnes per hectare while for non-irrigated potato crops the yield was only 12.1 tonnes per hectare. The next table highlights the importance of irrigation in the potato growing industry:

Potatoes Irrigated

Particulars	1963-64	1970-71	1971-72	1972-73	1973-74
Total area of potatoes planted (hectares)	4 373	3 640	3 593	3 330	3 127
Area irrigated—					
Total .. .. .	803	1 908	2 253	2 313	2 166
As proportion of area planted (per cent)	18.4	52.4	62.7	69.5	69.3

The next table shows areas irrigated from each source of water:

Source of Water for Irrigation (a)

Source of water	Area irrigated (hectares)		Number of holdings reporting each source of water	
	1970-71	1971-72	1970-71	1971-72
Surface water from—				
Communal irrigation schemes .. .. .	631	n.a.	12	n.a.
State irrigation schemes .. .. .	n.a.	5	n.a.	1
Rivers, creeks, etc. .. .. .	8 521	9 660	552	643
Farm dams, etc. .. .. .	9 048	9 830	941	1 077
Underground water supply (bore, well, etc.)	138	223	27	41
Town or country reticulated supply .. .. .	167	139	81	70
Total .. .. .	18 505	19 857	(b) 1 509	(b) 1 713

(a) Similar details have not been collected since 1971-72.

(b) This is the total number of holdings reporting the use of irrigation and not the total number of holdings reporting each source of water since one holding may report a number of different sources.

### Farm Machinery on Agricultural Holdings

A previous table showing male farm workers over a 10-year period indicated a steady fall in the agricultural labour force. This decline must be associated, in some degree, with the increasing use of machinery on farms. The following table gives details of machinery on agricultural holdings at 31 March:

Machinery on Agricultural Holdings at 31 March

Type of machinery	1964	1970	1971	1972	1973	1974
Cultivating equipment—						
Rotary hoes and rotary tillers—						
Self contained power unit type ..	1 218	1 240	1 196	1 204	1 241	1 197
Tractor mounted or trailing type ..	681	878	906	1 105	1 175	1 175
Harvesting equipment—						
Headers, strippers and other harvesters..	637	628	700	674	661	653
Mowers, agricultural—						
Reciprocating (cutter bar) type—						
Power drive .. .. .	4 703	5 029	4 942	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Ground drive .. .. .	1 294	564	512	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Rotary types (incl. slashers, etc.) ..	<i>n.a.</i>	1 588	1 607	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Hay rakes—						
Side delivery .. .. .	2 198	2 604	2 614	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Buck .. .. .	1 034	926	1 640	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Dump .. .. .	1 147	763				
Forage harvesters .. .. .	231	348	349	357	352	331
Pick-up balers .. .. .	1 494	2 003	2 019	2 044	2 082	2 161
Potato diggers .. .. .	1 002	893	849	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Potato harvesters .. .. .	<i>n.a.</i>	77	95	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Seeding and planting equipment—						
Grain drills (all types) .. .. .	4 002	3 861	3 736	3 600	3 489	3 414
Fertiliser distributors and broadcasters—						
Rotary .. .. .	3 455	4 217	4 229	4 287	4 341	4 353
Direct drop .. .. .	1 970	1 763	1 654	1 545	1 425	1 319
Potato planters .. .. .	204	295	289	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Other equipment—						
Shearing machines (number of stands) ..	4 371	4 839	<i>n.a.</i>	4 505	<i>n.a.</i>	<i>n.a.</i>
Milking machines (number of stands) ..	13 382	16 941	<i>n.a.</i>	16 187	15 715	<i>n.a.</i>
Hammer mills .. .. .	415	680	691	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>
Spray plants, power driven .. .. .	2 742	2 918	2 913	2 525	2 518	2 428
Irrigation plants, power driven .. .. .	1 865	2 495	2 413	2 316	2 387	2 333

The next table shows tractor numbers during the last 10-year period:

Number of Tractors on Agricultural Holdings at 31 March

Type of tractor	1964	1970	1971	1972	1973	1974
Wheeled .. .. .	9 831	11 764	11 701	11 716	11 742	11 710
Crawler .. .. .	1 073	1 192	1 238	1 147	1 163	1 136
Total .. .. .	10 904	12 956	12 939	12 863	12 905	12 846

### Artificial Fertilisers

After 1967-68 the trend to greater use of artificial fertilisers was reversed. The need to reduce costs because of falling prices for some farm products, coupled with research results indicating that high quantities were not needed to maintain pasture growth, resulted in reduced quantities of artificial fertilisers being used. This downward trend was reversed during the past two years with increases in the rate of application of fertiliser for crops and increases both in usage of artificial fertiliser on pasture and in the area of pasture fertilised.

Both total artificial fertiliser usage and the total area fertilised reached record levels in 1973-74. These recent increases reflect the high prices received for wool and livestock in 1972-73 and the desire to beat the increase in price for superphosphate, caused in part by the decision to remove the government subsidy of nearly \$12 per tonne as from 31 December 1974. This decision caused considerable interest in the extent of the concentration of superphosphate usage.

The following table shows the distribution of usage, according to quantity used on holdings, of artificial fertilisers, excluding straight nitrogenous types (5 433 tonnes in 1973-74 out of a total of 180 310 tonnes of artificial fertiliser used) and including 'other types and mixtures' (29 095 tonnes) which include a sizeable proportion of superphosphate.

**Rural Holdings Classified According to the Quantity of Artificial Fertiliser (Other than Straight Nitrogenous Types) Used, 1973-74**

Particulars	Size category (tonnes used)				
	Up to 10	Over 10 and up to 30	Over 30 and up to 100	Over 100	Total
Number of holdings .. ..	3 462	1 990	987	266	6 705
Percentage (a) .. ..	51.6	29.7	14.7	4.0	100.0
Quantity used (tonnes) ..	16 288	36 990	52 888	68 711	(b) 174 877
Percentage (c) .. ..	9.3	21.2	30.2	39.3	100.0

(a) Of total holdings using fertilisers.

(b) Comprises 145 782 tonnes of superphosphate (including superphosphate with trace elements) and 29 095 tonnes of other types and mixtures.

(c) Of total fertiliser used.

The following table shows the amount of artificial fertiliser used, by the type of crop, for recent years:

**Artificial Fertilisers Used**

Particulars	Unit	1963-64	1970-71	1971-72	1972-73	1973-74
<b>Vegetables (a)—</b>						
Area fertilised .. ..	hectares	10 175	8 309	8 865	9 087	8 780
Fertiliser used—Total ..	tonnes	6 713	7 279	7 791	7 856	7 834
Per hectare .. ..	tonnes	0.66	0.88	0.88	0.86	0.89
<b>Fruit—</b>						
Area fertilised .. ..	hectares	8 527	7 211	5 545	5 306	4 577
Fertiliser used—Total ..	tonnes	7 580	6 930	5 075	4 919	4 505
Per hectare .. ..	tonnes	0.89	0.96	0.92	0.93	0.98
<b>Other crops (b)—</b>						
Area fertilised .. ..	hectares	76 306	65 026	44 087	47 916	42 158
Fertiliser used—Total ..	tonnes	19 521	16 590	11 044	12 460	11 678
Per hectare .. ..	tonnes	0.26	0.26	0.25	0.26	0.28
<b>Pastures (b)—</b>						
Area fertilised .. ..	hectares	522 442	536 081	499 928	602 991	724 104
Fertiliser used—Total ..	tonnes	109 962	111 473	110 532	131 323	156 293
Per hectare .. ..	tonnes	0.21	0.21	0.22	0.22	0.22
<b>Total usage—</b>						
Area fertilised .. ..	hectares	617 450	616 626	558 424	665 299	779 619
Fertiliser used .. ..	tonnes	143 776	142 272	134 442	156 558	180 310

(a) Vegetables for human consumption only.

(b) 'Pastures' includes lucerne from 1971-72 but lucerne is included in 'Other crops' for earlier years.

### Types of Artificial Fertiliser

The basic types of artificial fertiliser employed are phosphatic (e.g. superphosphate), nitrogenous (e.g. sulphate of ammonia) and potassic (e.g. muriate of potash), their essential chemical contribution to plant nutrition being phosphoric oxide ( $P_2O_5$ ), nitrogen (N) and potassium oxide ( $K_2O$ ). Superphosphate, either 'straight' or with additives, is most widely used in Tasmania, the additives consisting of trace elements such as cobalt, molybdenum, copper, boron, zinc, etc. In addition to the basic fertiliser types, various combinations are also used. Due to the numerous fertiliser combinations on the market it has not been possible to obtain any detailed analysis of the types applied for various purposes.

### Artificial Breeding

#### Introduction

Artificial breeding is a technique applicable to animals, birds and bees, whereby a female is inseminated artificially with semen collected from a male. In Tasmania, its main application has been in cattle and is used to a lesser extent for pigs.

Use of artificial breeding allows more effective use of superior bulls; in addition, infertility diseases such as *vibriosis*, *brucellosis* and *trichomoniasis*, all of which are transmitted by bulls, can be more effectively controlled.

In Tasmania most artificial breeding activities are undertaken by the Artificial Breeding Board which operates a Semen Production Centre at Hadsphen Park and eight artificial insemination centres, although some activities are carried out from private centres.

#### Semen Imports

Semen can be imported into Tasmania from all Australian states, New Zealand, United Kingdom, Canada and Ireland. Since the lifting of export restrictions in the United Kingdom in 1968 the bulk of importations have been made from that country. The main interest has been in charolais, simmental and limousin, all European breeds, but smaller quantities of semen from other beef and dairy breeds have also been imported.

#### Artificial Breeding Statistics

The following table gives details of Artificial Breeding Board activities in recent years:

Artificial Breeding: Services and Inseminations  
(Source: Artificial Breeding Board)

Year	Cows served (a)	Total Inseminations	Non-return rate for commercial service (b) (per cent)
1966-67 .. .. .	31 332	47 148	66.1
1967-68 .. .. .	42 089	60 587	68.3
1968-69 .. .. .	43 658	62 551	69.3
1969-70 .. .. .	49 818	70 350	70.2
1970-71 .. .. .	48 588	68 917	69.7
1971-72 .. .. .	55 505	81 581	66.1
1972-73 .. .. .	59 215	81 760	70.7
1973-74 .. .. .	57 751	69 728	72.6

(a) Includes cows which have undergone infertility service, however numbers are negligible.

(b) Percentage of cows not returning for further service within 90-120 days following first service.



The next table gives an analysis of Tasmanian sires used during 1973-74:

Tasmanian Sires Used in Artificial Breeding During 1973-74 (a)

Particulars	Breed of bull						Total
	Friesian	Jersey	Hereford (b)	Murray and Tasmanian grey	Angus	Australian illawarra shorthorn	
Number of bulls	34	16	6	4	1	1	62
Number of services ..	34 030	4 614	5 504	3 450	645	18	48 261

(a) Excludes bulls from private centres.

(b) Includes poll hereford.

### Semen Exports

Semen produced at Hadspen Park is exported to all mainland states and several other countries. Early in 1971 substantial shipments were despatched to Sri Lanka, Malaysia and New Zealand, and in July 1971 the first shipment of Tasmanian semen was despatched to Canada.

### Freeze Branding

In 1969 the Board introduced a freeze branding service. Freeze branding involves immersing a copper brand in dry ice and alcohol or liquid nitrogen, reducing its temperature to  $-79^{\circ}\text{C}$ . The brand is then applied to the beast's hide and results in the hair follicle being killed; consequently the hair turns white. In the case of light coloured cows the brand is held on the hide longer, resulting in complete removal of the hair. This is a painless procedure and results in a clear brand which can be read without difficulty at a considerable distance and is of great assistance to breeders in identifying cows for mating programmes.

### Performance Recording

In March 1972 the Board began a beef cattle performance recording service taking over the weighing of cattle and processing of data from the Department of Agriculture. This service now forms part of the National Beef Recording Scheme.

## TASMANIAN DEPARTMENT OF AGRICULTURE

### Aims and Structure

The Department of Agriculture (originally the Agricultural Bureau of Tasmania) was created in the late 1880's with very narrow aims, principally to administer plant and animal regulations and advise the Government on all phases of agriculture. In 1927, however, the State Government decided to reorganise the Department, a new aim having been suggested by the Commonwealth Development and Migration Commission which most strongly urged facilitating the spread of scientific knowledge among primary producers.

The functions of the modern Department are: (i) active research and investigation into agricultural problems; (ii) wide dissemination of technical information and other advice to farmers; and (iii) regulatory and administrative action as required under various State Acts.

To carry out the functions associated with agriculture, the Department, headed by the Director, is divided into five *divisions* (agronomy, horticultural, animal production, plant pathology and entomology), three *services* (extension, animal health and administrative) and one *section* (agricultural economics). The Department has its own laboratories, research stations and experimental farms. In addition, the Director administers the Sea Fisheries Division.

At present, there are three research centres and one laboratory associated with agronomical research, two research centres and a laboratory involved in horticultural research, one bacteriological laboratory devoted to dairy research and bacterial investigations, and laboratories which deal with entomological and plant pathological investigations. Livestock studies are conducted at two of the centres associated with agronomical research and laboratory facilities are provided at Mt Pleasant (Launceston).

## Chapter 8

### FORESTRY, MINING AND FISHERIES

#### FORESTRY: GENERAL

##### Introduction

When the first explorers ventured beyond the main coastal areas of mainland Australia, they encountered arid zones and desert nearly devoid of timber. By contrast, in Tasmania dense and continuous forest was the main barrier to early penetration, although the early settlements were sited in open savanna-like country which originated from firing by the Tasmanian natives. No other Australian state has similar widespread conditions favourable for forest growth: a cool temperate climate; an assured annual rainfall varying from 500 to 3 800 millimetres according to locality, and showing relatively small seasonal variation.

In the 170 years since the first settlement, land clearing, timber exploitation and fires have left their mark; the Forestry Commission estimated the total forest area (including some forest of little or no commercial value) at 30 June 1974 as 2 802 000 hectares (i.e. about 41 per cent of the State's total area). By Australian standards, however, a state with 41 per cent of its area under forest is uniquely endowed.

##### Demand for Forestry Products

Timber was always in demand as a fuel and as a building and construction material from the days of the original settlement. The possibility of using eucalypts for paper manufacture was investigated in the nineteenth century by Sir Ferdinand von Mueller, the celebrated botanist, and he concluded that eucalypts provided a bark which was suitable for the manufacture of paper. In actual fact, when paper-making began at Burnie in 1937, the process involved discarding the bark and converting de-barked billets to pulp. In 1941 the only newsprint mill in Australia was established at Boyer on the Derwent; more recently, in 1962, a pulp mill began operations at Port Huon in the south. A further pulp and paper mill commenced production during 1970 at Wesley Vale near Devonport. Further utilisation of forestry products has been introduced by factories producing plywood, hardboard, particle board, woodchips (for export), etc.

##### Plantations

The scarcity of native softwoods is being met, in part, by the creation of exotic plantations, the principal tree grown being *Pinus radiata*, but at 30 June 1974 the softwood plantations (32 400 hectares) accounted for only 1.1 per cent of the State's total forested area. The Forestry Commission had established over 23 000 hectares of softwood plantations in Tasmania by 30 June 1974.

The following table shows the area of softwood and hardwood plantations established by the Forestry Commission (but excludes privately-owned areas):

**Area of Forestry Commission Plantations at 30 June  
(Hectares)**

District	1973			1974		
	Softwoods	Hardwoods	Total	Softwoods	Hardwoods	Total
Smithton .. .. .	..	9	9	..	9	9
Burnie .. .. .	2 388	3	2 391	2 516	3	2 519
Devonport .. .. .	3 511	322	3 833	3 877	333	4 210
Launceston .. .. .	601	1	602	660	1	661
Scottsdale .. .. .	6 162	2	6 164	6 553	2	6 555
Fingal .. .. .	7 723	..	7 723	8 425	2	8 427
Dover .. .. .	86	..	86	86	..	86
Queenstown .. .. .	820	..	820	1 077	..	1 077
Total .. .. .	21 291	337	21 628	23 194	350	23 544

In May 1974 following the calling of tenders for cutting rights in *Pinus radiata* plantations in the north-east of Tasmania a substantial sale of sawlogs was made which will lead to the establishment of a milling complex near Scottsdale. The annual volume of timber to be harvested is 50 000 m<sup>3</sup> which will be obtained by clear felling at a rotation age of 35 years. Harvesting, which is expected to commence in late 1975, will extend over 15 years at the end of which exclusive thinning rights will be granted for approximately 12 000 m<sup>3</sup> per annum.

### Forest Area

The next table gives details of that part of the total area which is under reservation ('reservation' in this context means land either used or to be used exclusively for forestry purposes; it includes also the forested areas of scenic reserves):

**Forest Area (Gross) Under Reservation at 30 June 1974  
(\*000 Hectares)**

Particulars	Pulpwood concessions	Exclusive forest permits	Scenic reserves (a)	Other	Total
State forests (b) .. ..	1 234	27	..	83	1 345
Timber reserves (c) .. ..	55	..	..	25	80
Other forested reserves .. ..	434	39	132	1	606
Total .. .. .	1 723	66	132	109	2 030

(a) Estimated forested component of State reserves (national parks, etc.).

(b) Gazetted State forest only. Area is permanently dedicated to timber production.

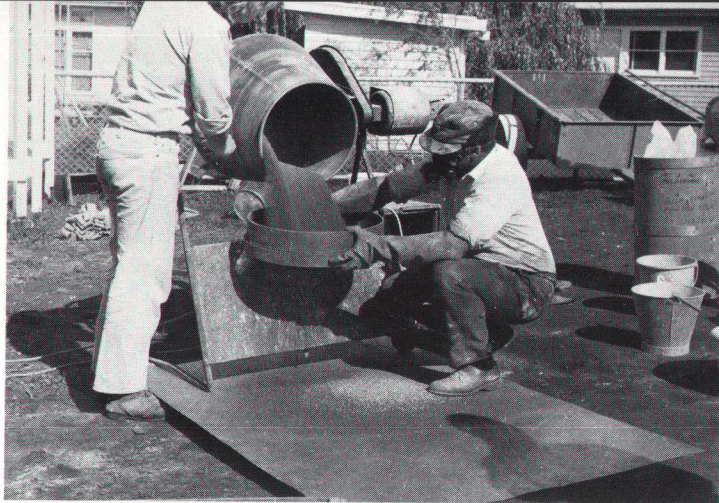
(c) Land reserved for timber supply, including fuel.

The State forests are located, in the main, in five distinct regions: (i) far north-west about the axis of the Arthur River; (ii) north-eastern highlands; (iii) north and north-west of the Great Lake; (iv) from the south coast, north to Lake King William; and (v) the east coast area.

### Classification of State Forests

A classification of State forest timber reserves and land acquired for forestry purposes is set out below:





*Top left: Pelletising eucalypt seed for aerial sowing*

*Lower left: Grafting buds from 'plus' trees onto *Pinus radiata* seedlings.*

*Top right: Aerial sowing.*

*Lower right: Planting pine seedlings, Fingal Valley*

*[Forestry Commission]*





*Top left: Classification of vegetation types from aerial photographs.*

*Lower left: Laboratory research into tree pathogens.*

*Top right: Computer processing data for forest management.*

*Lower right: Technical Officers undergoing training in nursery.*

*[Forestry Commission]*



**Classification of State Forests at 30 June 1974**  
(**'000 Hectares**)

Forest type	State forest (a)
Eucalypt forest with a mature or potential mature height over 41.5m .. .. .	349
Eucalypt forest with a mature or potential mature height of 15.24m to 41.15m .. .. .	568
Temperate rainforest ( <i>N. cunninghamii</i> ) and associated species	162
Plantations (mainly <i>P. radiata</i> ) .. .. .	23
<b>Total forest area .. .. .</b>	<b>1 102</b>
Non-productive forests and other land included for protection purposes .. .. .	491
<b>Total .. .. .</b>	<b>1 593</b>

(a) Comprises gazetted State forest, timber reserves and areas of State forest not gazetted at 30 June 1974.

### Timber Concession and Reserve Areas

The establishment in Tasmania of various industries using forest resources has given rise to the need for some guarantee of assured timber supplies to those industries. Therefore certain concessions and cutting rights on Crown lands have been awarded to companies relying on forest products as their raw materials. The map on the following page shows the location of concession and reserve areas in Tasmania. Concession areas are those areas where a company is at present allowed to operate while reserve areas are set aside for future use. Providing that the company meets certain stipulated conditions, permission to remove timber from the reserve area will be granted by the Forestry Commission.

### Forest Utilisation

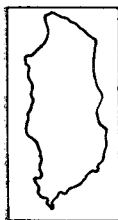
#### *Introduction*

Numerous timber-using industries have been established in Tasmania including sawmills and industrial plants producing newsprint, paper, paper pulp, particle board and woodchips. Establishment of the woodchip industry and the expansion of other timber-using industries has resulted in greatly increased annual timber requirements necessitating careful utilisation of existing forest resources and the development of viable reafforestation schemes.

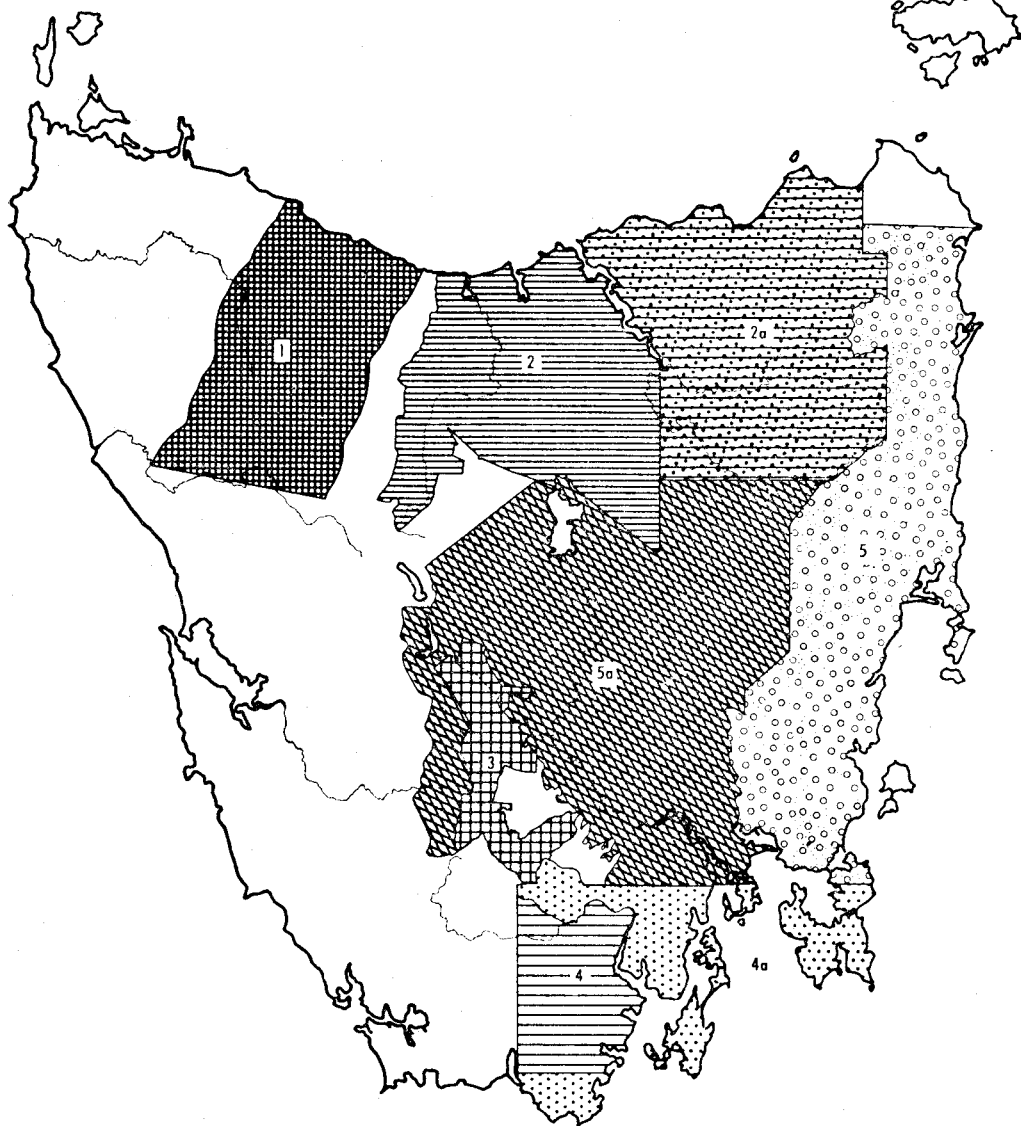
The problem of possible overtaking of existing resources has been met partly by multiple use which, in effect, means the same logs supply the raw material for a number of purposes. Pulpwood is often obtained as a by-product from mill-logging operations while waste from sawmilling is used for the manufacture of woodchips, pulp and hardboard. During 1969-70, the year preceding export of woodchips, approximately 25 per cent only of sawmill waste was chipped for use in woodpulp and wallboard manufacture. As a direct consequence of the woodchip export trade the proportion was almost 65 per cent for 1973-74. Thinnings from Forestry Commission *Pinus radiata* plantations, which in the past were often discarded, are used in particle board manufacture.

Regeneration is carried out by the Forestry Commission and by the companies themselves. On Crown land reforestation is mandatory, the work in some areas being done by the companies and in other areas by the Forestry Commission. Industries utilising privately owned forest resources have established incentive schemes to encourage reforestation.





## TIMBER CONCESSION AREAS



A.P.P.M.: (1) Burnie Concession Area; (2) Wesley Vale Concession Area; (2a) Wesley Vale Reserve.

A.N.M.: (3) Concession Area.

A.P.M.: (4) Concession Area; (4a) Reserve.

T.P.F.H.: (5) Concession Area; (5a) Reserve.

*Total Log Usage*

The next table shows total log usage by the sawmilling, paper making, chipping and allied industries:

**Hardwood and Softwood Log Usage**  
(<sup>000</sup>m<sup>3</sup>)

Particulars	Sawmilling	Chipping, grinding and flaking	Total
By STATISTICAL DIVISION AND SUB-DIVISION, 1973-74			
Hobart .. .. .	137.73	} 1 134.52	1 425.51
Southern .. .. .	153.26		
Northern—			
Tamar .. .. .	320.70	1 501.99	1 822.69
North-Eastern .. .. .	116.69	..	116.69
Total .. .. .	437.39	1 501.99	1 939.38
Mersey-Lyell—			
North Western .. .. .	326.19	325.15	651.34
Western .. .. .	19.16	..	19.16
Total .. .. .	345.35	325.15	670.50
Tasmania .. .. .	1 073.73	2 961.66	4 035.39
SUMMARY: TASMANIA			
1970-71 .. .. .	1 054.80	771.50	1 826.30
1971-72 .. .. .	1 081.09	1 171.37	2 252.46
1972-73 .. .. .	1 096.99	2 133.65	3 230.64
1973-74 .. .. .	1 073.73	2 961.66	4 035.39

In the sections that follow some of the more significant details are given for the State's major timber-using industries, excluding sawmills.

*Paper, Hardboard and Particle Board*

Associated Pulp and Paper Mills Ltd and subsidiaries manufacture paper and hardboard at Burnie and particle board and paper at Wesley Vale. The company owns 101 172 hectares of forested land and holds cutting rights over Crown land for 24 kilometres on each side of the Emu Bay railway line from the north coast to the Pieman River.

In 1970 the company completed the first stage of its pulp and paper mill at Wesley Vale at a cost of \$25m. The first paper machine installed has an annual capacity of about 40 640 tonnes of magazine paper and provision has been made for the installation of three additional machines. Two small pulping units manufacture eucalypt cold soda semi-chemical pulp and *Pinus radiata* refiner groundwood. A.P.P.M. Ltd plans to establish a large chemical pulp mill at Wesley Vale by 1978 which will duplicate present production from the Burnie complex.

*Newsprint*

Australian Newsprint Mills Ltd, situated at Boyer on the Derwent River is Australia's sole manufacturer of newsprint. Its timber concession follows the general line of the Derwent as far north as Lake King William.

The *Florentine Valley Paper Act* 1966 increased A.N.M.'s concession area from 110 479 hectares to 150 948 hectares to provide the basis for an expansion programme. The company is required by the Act to supply 23 600 cubic metres of logs to other timber-using industries each year. A third paper machine came into production in January 1969 increasing annual capacity to 168 000 tonnes of newsprint. Output on this machine was progressively speeded-up and further ancillary equipment introduced to raise annual capacity to approximately 208 000 tonnes.

### *Woodpulp*

Australian Paper Manufacturers Ltd manufacture woodpulp at Port Huon on the Huon River. The pulp is shipped in pellet form to the company's paper mills in other states, principally to Botany, N.S.W.

The company's pulpwood concession includes virtually the whole of the D'Entrecasteaux Channel coastline and the south coast as far west as Prion Bay; inland it extends west to the Mt Picton area. Also included in the concession are Bruny Island and the Tasman Peninsula.

### *Woodchips*

Woodchips manufactured from sawmill waste and other timber previously of limited commercial value, are primarily used for woodpulp production. Three Tasmanian companies, Northern Woodchips Ltd, Tasmanian Pulp and Forest Holdings Ltd and Associated Pulp and Paper Mills Ltd have negotiated woodchip export contracts with Japanese interests. Before granting woodchip export licences, the Australian Government stipulated that the companies, if they did not already have the capacity, should develop woodpulp manufacturing facilities within 15 years.

Tasmanian Pulp and Forest Holdings Ltd's plant at Spring Bay, near Triabunna on the east coast, has an annual capacity of more than 610 000 tonnes of woodchips. Timber for the project comes from pulpwood concession areas extending along the Eastern Tiers from St Helens (177 kilometres north of Triabunna) to Buckland (24 kilometres to the south-west). The Company has also been granted concessions over reserve areas covering much of central Tasmania. These areas will ultimately be used provided Tasmanian Pulp and Forest Holdings Ltd meets various stipulations contained in the *Pulpwood Products Industry (Eastern and Central Tasmania) Act* 1968. In addition the company is permitted to obtain pulpwood from areas in the reserve set aside by the Forestry Commission for silvicultural purposes or by utilising trees removed to open the forest for economic extraction of milling-quality timber.

The company's first woodchips were exported from the Spring Bay complex in April 1971; by December 1971 the plant was operating at full capacity (610 000 tonnes of woodchips per annum).

Associated Pulp and Paper Mills Ltd and Northern Woodchips Pty Ltd constructed their woodchip plants at Long Reach, near Bell Bay, on the Tamar River. Northern Woodchips Pty Ltd has also installed portable and satellite chipping plants in the northern half of Tasmania. A.P.P.M. Ltd draws its timber supplies from Crown forest concessions, private land and sawmill waste while Northern Woodchips Pty Ltd relies on timber from private lands and sawmill waste. Annual capacity of the A.P.P.M. Ltd plant is 914 500 tonnes of woodchips; Northern Woodchips Pty Ltd's 15-year export contract is for an annual 711 000 tonnes of woodchips.

Both companies commenced production of woodchips in 1972; A.P.P.M. at its Long Reach plant in May 1972 and Northern Woodchips from its portable and satellite chipping plants in mid-1972. First exports by the two companies were made in late 1972. In February 1973 the first log trains commenced using the rail extension to Long Reach giving the two companies economic access to more distant timber supplies.

By July 1974 there were 31 operative chipping sites in Tasmania and a mobile chipper which is used wherever the volume of sawmill off-cuts or transport costs warrant its operation.

### Definition of Forest Production

The cutting of logs in a forest and the production of sawn timber in a mill seem closely related activities and may both, in fact, be conducted by a single operator with the same team of employees; similarly, the cutting of pulpwood and its later conversion to newsprint or fine paper may be viewed, in a broad sense, as a single activity. For statistical purposes, however, sawmills, paper mills, newsprint mills, woodchip plants, etc. are classified as factories while logging operations, which provide the raw materials for the factories, are classified as forestry activity. It necessarily follows that the definition of forest production must be restricted to include only the output of logs, hewn timber, firewood, tanning bark, etc. before such products have passed into the sector covered by factory statistics. Some forestry products, as just defined, (e.g. fence posts and rails, hewn sleepers, firewood, etc.) may go direct to the final consumer without passing as a raw material to the factory sector.

### Value of Forest Production

*Gross Value of Production* is the value placed on the recorded production at the wholesale price realised in the principal markets. In cases where forestry products are consumed at the place of production or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets (e.g. the value of logs cut for sawmilling is the value on the mill skids).

*Local Value* (i.e. value of recorded production at the place of production) is ascertained by deducting marketing costs from gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.

In other production sectors, local value of production is further reduced by subtracting the value of materials used in the process of production; the final figure is *net value of production*. In the forestry sector, however, these data on the cost of materials are not available and therefore the only two measures available are: (i) gross value of production; and (ii) local value of production.

*Duplication*: Until 1968-69, the value of logging operations was included *only* in the forestry sector and excluded entirely from the manufacturing sector. The changed concept of the establishment, introduced in the 1968-69 manufacturing census, involves some logging activity being recorded in the operations of sawmills; in 1969-70, the value of such activity, double-counted (i.e. included in both manufacturing and forestry sectors), was \$1.6m.

### Source of Production Data

The principal sources of data are the returns of the various establishments classified as factories (e.g. sawmills, newsprint mills, paper mills, plywood mills, etc.) which report details of logs, pulpwood, sawmill edgings, off-cuts, etc. used as raw materials; other data are available from the State Forestry Commission and the Bureau's export statistics.

## Statistics of Forest Production

The next table shows the production of the various forest products and from where they are obtained, i.e. either Crown or private land. In this table, the 'Logs for processing' figures include the log usage of the woodchip export industry. Woodchips have been an input material for locally based paper and woodpulp plants for many years but demand increased greatly with the establishment of woodchip export markets.

The following table shows details of forest production:

Forest Production, 1973-74

Product	Obtained from—		Total
	Crown land	Private land	
Logs for processing (a)—			
Forest hardwoods .. .. '000 m <sup>3</sup>	2 320.94	1 653.36	3 974.30
Indigenous softwoods .. .. '000 m <sup>3</sup>	11.11	..	11.11
Plantation grown pines .. .. '000 m <sup>3</sup>	39.34	33.94	73.29
Total logs—Quantity .. .. '000 m <sup>3</sup>	2 371.40	1 687.31	4 058.70
Gross value .. .. \$'000	n.a.	n.a.	39 802
Hewn and other timber—Quantity (b) '000 m <sup>3</sup>	32.29	n.a.	32.29
Value (c) .. .. \$'000	n.a.	n.a.	3 471
Total gross value of forest products \$'000	n.a.	n.a.	43 273

(a) Logs for sawing, peeling, slicing, chipping and pulping.

(b) From Crown land only; includes firewood, sleepers, transoms, girders, bridge timber, mining timber, poles, piles and other forest products.

(c) Includes an estimate of the value of hewn and other timber and firewood taken from private land and other forest products.

The next table shows details of forest production for a five-year period on a basis comparable with the previous analysis:

Forest Production

Product	1969-70	1970-71	1971-72	1972-73	1973-74
Logs for processing (a)—					
Forest hardwood .. .. '000 m <sup>3</sup>	1 752.4	1 763.0	2 184.7	3 159.6	3 974.3
Indigenous softwood .. .. '000 m <sup>3</sup>	14.8	8.5	4.3	8.4	11.1
Plantation grown pines .. .. '000 m <sup>3</sup>	65.1	56.9	57.0	56.4	73.3
Total logs—Quantity .. .. '000 m <sup>3</sup>	1 832.4	1 828.4	2 246.0	3 224.4	4 058.7
Gross value .. .. \$'000	15 859	14 037	18 858	27 897	39 802
Hewn and other timber—					
Quantity (b) .. .. '000 m <sup>3</sup>	45.8	35.2	40.4	39.4	32.3
Value (c) .. .. \$'000	3 039	3 046	3 069	3 025	3 471
Total gross value of forest products .. .. \$'000	18 898	17 083	21 927	30 922	43 273

(a) Logs for sawing, peeling, slicing, chipping and pulping.

(b) From Crown land only; includes firewood, sleepers, transoms, girders, bridge timber, mining timber, poles, piles and other forest products.

(c) Includes an estimate of the value of hewn and other timber and firewood taken from private land and other forest products.

### Tasmanian and Australian Log Production

For the purposes of the last two tables, log production is defined as relating to 'logs' for sawing, peeling, slicing, chipping and pulping (i.e. it includes logs used in sawmills as well as those used for production of woodpulp in newsprint and paper mills, woodchips, particle board, etc.). In terms of this definition Tasmania is a major producer, the State's log production being over 21 per cent of the Australian total in 1971-72. The ranking of the major producers was Victoria with 23.4 per cent and N.S.W. with 23.1 per cent. Considering Tasmania's small relative size and population, it is apparent that forest production is one of its more important contributions to the Australian economy.

### Gross and Local Value of Production

The following table gives details of gross and local values of forestry production for a five-year period.

**Gross and Local Value of Forestry Production**  
(£'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Gross value (production valued at principal markets) .. .. .	18 898	17 083	21 927	30 922	43 273
Less marketing costs .. .. .	2 765	2 882	3 734	5 562	7 393
Local value (production valued at place of production) .. .. .	16 132	14 201	18 193	25 360	35 880

### Timber and Timber Products

#### Output and Exports

The following table shows timber production by mills for a five-year period, together with exports of sawn timber:

**Production and Exports of Sawn Timber**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>LOGS TREATED ('000 m<sup>3</sup>)</b>					
Hardwood .. .. .	1 049.84	1 027.74	1 054.60	1 068.65	1 037.77
Softwood .. .. .	29.50	27.06	26.48	28.34	35.96
Total .. .. .	1 079.33	1 054.80	1 081.09	1 096.99	1 073.73
<b>SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS TREATED (a) ('000 m<sup>3</sup>)</b>					
Hardwood .. .. .	400.70	394.34	401.23	403.85	398.22
Softwood .. .. .	12.96	11.76	11.62	12.45	16.10
Total .. .. .	413.65	406.10	412.85	416.29	414.32
<b>EXPORTS OF SAWN TIMBER (b) ('000 m<sup>3</sup>)</b>					
Total .. .. .	207.24	200.58	202.33	224.83	270.25
<b>VALUE OF EXPORTS OF SAWN TIMBER (b) (£'000)</b>					
Total .. .. .	16 238	17 201	17 385	20 822	26 156

a) Rough sawn timber including that subsequently seasoned and dressed to produce flooring, weather-boards, etc.

(b) Includes dressed and undressed timber.

*Geographical Distribution of Sawmills*

The next table records the absolute decline in the number of mills over recent years. The area with the heaviest incidence of closures has been the southern orcharding region.

Fruit case manufacturers, often part-time farmers or cartage contractors, could not compete with the cheaper and lighter fibre board packaging. Generally depressed prices for export fruit combined with the 1967 bush fires reinforced the speed of the collapse of case-making.

**Distribution of Operative Sawmill and Plywood Mill Locations  
by Statistical Divisions and Sub-divisions**

Statistical divisions and sub-divisions	1963-64	1967-68	1969-70 (a)	1971-72	1972-73	1973-74
Hobart .. .. .	} 143	107	96 {	12	12	14
Southern .. .. .				73	70	73
Northern—						
Tamar .. .. .	62	64	53	61	61	56
North Eastern .. .. .	41	43	36	29	29	30
Total .. .. .	103	107	89	90	90	86
Mersey-Lyell—						
North Western .. .. .	53	53	45	39	37	38
Western .. .. .	8	8	8	8	8	7
Total .. .. .	61	61	53	47	45	45
Tasmania .. .. .	307	275	238	222	217	218

(a) In 1968-69 a change in definition excluded 12 planing mills which were exclusively engaged in re-sawing.

*Average Size of Mills*

In the year 1963-64 no Tasmanian sawmill exceeded an annual log input of 25 000 cubic metres. The size distribution of mills, classified by volume of log inputs, is given in the next table:

**Number of Operative Sawmills (including Plywood Mills)  
by Volume of Annual Log Input**

Size classification (cubic metres)	Number of sawmills and plywood mills		
	1971-72	1972-73	1973-74
Up to 500 .. .. .	49	42	50
501- 1 000 .. .. .	14	24	28
1 001- 1 500 .. .. .	17	14	11
1 501- 3 000 .. .. .	36	38	33
3 001- 5 000 .. .. .	35	29	30
5 001-10 000 .. .. .	42	40	40
10 001-15 000 .. .. .	13	14	14
15 001-30 000 .. .. .	15	14	8
30 001-45 000 .. .. .	1	1	2
45 001-60 000 .. .. .	..	..	1
Over 60 000 .. .. .	..	1	1
Total .. .. .	222	217	218



### Mill Production of Timber

As shown in the previous table, in 1973-74 logs treated in sawmills and plywood mills for the production of sawn, peeled, and sliced timber totalled 1 074 000 cubic metres; the resulting timber totalled 414 000 metres.

The difference between the volume of logs treated and of timber produced is not all waste from the millers' points of view. Admittedly, there is very limited use for sawdust but some offcuts are sold to the woodpulp and, more recently, the woodchip industries and other waste is docked and sold as firewood.

### Chipping, Grinding and Flaking of Wood

Apart from sawmills and plywood mills, the main users of logs from Tasmanian forests were, until early 1971, the mills producing as their final products wood pulp, paper, hardboard and particle board. As an intermediate stage in the various processing systems, the timber used was chipped, ground or flaked at eight locations.

Since the commencement of woodchipping for export from the port of Triabunna in February 1971, details have been regularly obtained of *log usage*, and of *production of chipped, ground and flaked wood*, from all mills engaged in producing woodchips as such, woodpulp, paper, hardboard and particle board.

With the opening, in late 1972, of two additional woodchip export sites at Long Reach on the Tamar estuary, it has become possible to classify output into woodchips, etc. for further local processing and those for export. In the month of March 1974, three quarters of total production was destined for Japanese mills.

The rapid development of woodchipping for export is shown in the following table:

**Chipping, Grinding and Flaking of Wood**

Particulars				1970-71	1971-72	1972-73	1973-74
Producing locations .. ..	number			12	18	28	30
Materials used—							
Logs (a) .. ..	'000 m <sup>3</sup>			771.50	1 171.37	2 133.65	2 961.66
Sawmill offcuts .. ..	'000 m <sup>3</sup>			125.47	139.09	224.10	268.73
Total .. ..	'000 m <sup>3</sup>			896.97	1 310.46	2 357.75	3 230.39
Chipped, ground and flaked wood produced (green weight)—							
For local processing .. ..	'000 tonnes			<i>n.p.</i>	<i>n.p.</i>	793.74	892.47
For export .. ..	'000 tonnes			<i>n.p.</i>	<i>n.p.</i>	1 397.18	2 150.16
Total .. ..	'000 tonnes			828.61	1 213.17	2 190.93	3 042.63

(a) Includes log equivalent of limbwood and billets.

### The State Forestry Commission

The principal officers of the State Forestry Commission are the chief commissioner and two assistant commissioners. At 30 June 1974 the Commission employed a work force of 637 including administrative staff.

Total expenditure by the Commission during 1973-74 was \$6.3m. This expenditure was funded from Loan Funds and Consolidated Revenue. Money collected each year (mainly from timber royalties) is paid into Consolidated Revenue and, by law, becomes a grant to the Commission the following year.

The Forestry Commission is primarily concerned with the conservation of Tasmania's forests; this requires that it should exercise control over the rate at which logs and pulpwood are taken, and also that it should introduce effective measures to ensure regeneration. Other important functions include: (i) fire prevention and suppression; (ii) road construction to give access to forests; and (iii) development of plantations. A detailed account of the activities of the Forestry Commission is contained in the special article 'Forestry and Tasmania's Forests' which follows this section. Some concept of the scope of Forestry Commission activities can be obtained from the following table:

**Activities of Forestry Commission: Summary**  
(Source: Forestry Commission)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Seedlings produced .. .. '000	2 767	3 275	3 295	3 266	2 901
Plantations—					
Established .. .. hectares	1 878	2 027	1 905	1 902	1 903
Pruned .. .. hectares	726	839	754	495	454
Thinned .. .. hectares	414	353	302	273	409
Firebreaks—					
Constructed .. .. kilometres	127	53	85	49	73
Roads—					
Constructed .. .. kilometres	171	142	132	130	103
Improved .. .. kilometres	34	11	5	5	12

The Commission has a responsibility for preventing and fighting forest fires; losses through bush fires fought by the Commission are reported in the following table:

**Bush Fires Fought by the Forestry Commission**  
(Source: Forestry Commission)

Year	Fires reported	Area burnt				Cost of suppression
		State forest	Other Crown land	Private property (a)	Total (a)	
	no.	hectares	hectares	hectares	hectares	\$
1968-69 ..	87	1 432	2 450	652	4 535	18 722
1969-70 ..	118	1 954	3 327	940	6 221	21 963
1970-71 ..	114	5 987	1 575	1 101	8 663	22 493
1971-72 ..	95	1 016	292	518	1 826	13 841
1972-73 ..	305	50 170	64 870	25 860	140 900	262 531
1973-74 ..	62	2 147	3 727	180	6 054	23 688

(a) Includes only those fires on private property fought to protect adjoining State forest or timbered Crown land.

The main revenue of the Forestry Commission is derived from royalties, i.e. charges paid by those taking timber from Crown lands. By law, such revenue is specifically reserved for expenditure on forestry. The next table has been compiled to show the revenue and expenditure of the Commission for the last five years; expenditure exceeds revenue since money from State loan funds devoted to forestry purposes is included in expenditure.

**Forestry Commission: Revenue and Expenditure**  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>REVENUE</b>					
Royalties .. .. .	1 537	1 690	1 969	2 369	3 141
Sale of forest products .. .. .	89	93	123	109	100
Other .. .. .	27	32	35	39	18
<b>Total .. .. .</b>	<b>1 653</b>	<b>1 815</b>	<b>2 127</b>	<b>2 517</b>	<b>3 259</b>
<b>EXPENDITURE (a)</b>					
Administration—					
Revenue collection .. .. .	196	239	290	295	422
Forest management .. .. .	496	555	641	700	850
General .. .. .	381	457	504	605	725
Forest works—					
Road construction .. .. .	752	853	902	926	1 157
Building and other .. .. .	105	90	98	102	199
Afforestation and reafforestation .. .. .	1 140	1 236	1 330	1 657	1 917
Forest protection (n.e.i.) .. .. .	134	134	138	274	198
Mapping and surveys .. .. .	102	118	126	154	220
Land purchases .. .. .	7	17	8	4	8
Purchases, plant and equipment .. .. .	36	85	45	43	37
Interest on advances .. .. .	350	392	451	500	550
<b>Total .. .. .</b>	<b>3 699</b>	<b>4 176</b>	<b>4 533</b>	<b>5 260</b>	<b>6 283</b>

(a) Aggregate expenditure from all sources, i.e. Consolidated Revenue, Loan and Trust Funds.

### *Australian Government-State Agreement*

The federal *Softwoods Forestry Agreements Act* 1967 was passed with the specific intention of increasing the rate of softwood-plantings in Australia by providing federal financial assistance to the states. Under the Act each state was allocated: (i) *a base year* area of softwood plantings which was financed by the state; and (ii) *a scheduled* area in excess of the base year figure, the excess financed by special Australian Government loans. The base year area was constant for each year of the five-year programme which commenced in 1966-67.

Main features of the special Australian Government loans were: (i) repayment of advances, in 50 half-yearly instalments, is deferred until July of the eleventh year after the date on which payment was made to the state; (ii) the state may repay any portion of the advances at any time prior to the date that payment falls due; and (iii) the loans are interest free for a period of 10 years after which interest accrues on the outstanding balance.

In late 1972 federal legislation was passed which extended the Australian Government-State softwood forestry agreement for a further five years. The legislation was made retrospective from July 1971. Financial terms were similar to those set out in the 1967 agreement.

Base year areas (financed by the states) under the second Australian Government-State softwood forestry agreement are: N.S.W., 3 553 hectares; Vic., 2 635 hectares; Qld, 2 282 hectares; S.A., 1 376 hectares; W. A., 1 315 hectares; and Tas., 850 hectares. Tasmania's scheduled plantings for each of the five years ended 30 June from 1972 to 1976 were set at 1 862 hectares.

The Australian Government's aim is to establish 809 400 hectares of pine plantations in the next 40 years and Tasmania's target, as part of the plan, is 80 940 hectares.

## FORESTRY AND TASMANIA'S FORESTS

(The following article was contributed by the Tasmanian Forestry Commission)

## History

*Developments During the Nineteenth Century*

Under the Imperial Government's 1842 Act controlling waste lands of the Crown, the Governor of Van Diemen's Land was empowered to grant licences for the felling, removal and sale of timber from such lands. It contained, however, no other reference to forest interests. In 1854 the *Bush Fires Act*, largely to protect fences and rural property, was passed and this remained in force until 1935.

Van Diemen's Land became officially known as Tasmania from 1856 and, in 1858, the Colony passed its own *Waste Lands Act*, but there was still no provision for forest conservation. Regulations under that Act, published in 1863, provided for the issue of licences by the Commissioner for Crown Lands authorising the felling and removal of timber from Crown land, subject to a fee of 25 cents (two shillings and sixpence) per week for each person engaged in the felling operation. No royalty was payable on timber cut and the licence fee was reduced in 1866 to 10 cents a person per week.

Provision for any form of forest conservation had to wait for the *Waste Lands Act* 1881 which enabled the Governor in Council to reserve land 'for the preservation and growth of timber'. The *State Forests Act* 1885 authorised appointment of a Conservator of Forests under the Commissioner of Lands and the first such officer, Mr G. S. Perrin, F.L.S., F.R.S., was appointed the following year. Regulations under this Act introduced the concept of a timber royalty. Rates were set at \$2.77 per cubic metre (one penny per super foot hoppus) for pine from the West Coast 'Pine District' felled for export and \$1.39 per cubic metre (a halfpenny per super foot) for Tasmanian consumption, but these were later reduced to \$1.39 per cubic metre (a halfpenny per super foot) for pine for export and abolished in respect of pine for local use.

Control or supervision of bush operations was left to police officers in their capacity as Crown Lands Bailiffs—with no extra remuneration. Illegal timber getting was rife. Perrin described affairs as 'chaotic' in his report on the 'Systematic Conservation and Management of the Woods and Forests of Tasmania' (1887) and proposed measures to regularise the situation.

The *Crown Lands Act* 1890 repealed and consolidated the provisions of the earlier *Waste Lands Act* and the *State Forests Act* 1885. An amendment to the *Crown Lands Act* in 1898 and regulations under it confirmed the principles of granting exclusive cutting rights to sawmillers in the form of a lease and of royalty payments for all timbers cut. Royalties were set at 16.6 cents per cubic metre (five shillings per 1 000 super feet) for pine, blackwood and 'other ornamental timbers' and 3.3 cents per cubic metre (one shilling per 1 000 super feet) for eucalypts. However, in 1900, the rate for eucalypts was reduced to 1.7 cents per cubic metre (sixpence per 1 000 super feet).

*Later Developments*

In January 1908, a board was formed to advise the Minister 'in matters of constructive forestry'. This board, which consisted of the Secretary for Lands, the Government Botanist and an 'agricultural expert', seems to have been mainly concerned with raising conifer nursery stock for distribution to schools and public bodies and for large scale plantings.

*The Forestry Act 1920:* In 1920 the *Forestry Act* was passed, setting up a separate Forestry Department under the Conservator as its head. The Act was implemented the following year and the nucleus of a forest staff took shape. The *Forestry Act* provided for financing departmental activities from a forestry fund which consisted of one half of the previous year's gross revenue. The proportion was amended in December 1930 to two-thirds and a 1942 amendment provided for all revenue to be credited to the Forestry Fund.

Royalties on eucalypt timber had risen by 1920 to 25.0 cents per cubic metre (seven shillings and sixpence per 1 000 super feet); they progressively dropped again to 13.9 cents per cubic metre (four shillings and tuppence per 1 000 super feet) in 1923. Sawmilling flourished, particularly in the south of the State.

*Softwood:* During 1922-23, forest nurseries were set up at Strahan and at Sisters Hills as first steps to establish softwood plantations at these centres and at Beaconsfield, Queenstown and Badger Hills. Most of these areas, however, were on very poor land and the projects failed. The first planting of conifers on better soils began at Warrentinna in 1931-32 and this must be considered the start of systematic pine plantations in Tasmania. However, this first plantation was destroyed by fire in 1935.

A limited amount of aerial survey photography was undertaken by the R.A.A.F. in 1930, with a little more in 1931-32. Thereafter, however, no further aerial photography was used until major development and application of the procedures followed World War II.

*Pulp and Paper:* In 1915, H. E. Surface, a consulting engineer in forest products, reported that eucalypts were 'all unsuitable for paper making'. However, intensive research at Geeveston by L. R. Benjamin contradicted this finding and, as a result, the *Kermadie Woodpulp and Paper Industry Act* was passed in 1926. Commercial production of newsprint from Tasmanian eucalypts was authorised by the *Florentine Valley Paper Industry Act 1932*, but Australian Newsprint Mills Ltd did not begin operations at Boyer until 1941. In the meantime, at Burnie, a factory for making fine writing papers was opened in 1937 by Associated Pulp and Paper Mills Limited.

*Formation of the Forestry Commission:* Arising from poor administration, irregularities and political pressures, several investigations and reports were made into departmental affairs. The Galbraith Report in 1940-41 and the Kessell report of 1945 culminated in a Royal Commission in 1946. As a result of this and pressure to have forest administration less subject to political caprice, the Government transferred control of the Department to an incorporated Forestry Commission. The first Commission assumed control on 15 April 1947. It consisted of Mr A. H. Crane as Chief Commissioner, with Mr H. Payne and Mr B. O. Plummer as Assistant Commissioners.

#### *Expansion of Activities*

During the later years of World War II, in anticipation of an expected glut on the labour market after demobilisation, extensive surveys and plans were prepared for labour absorptive plantation works. In fact no labour surplus arose, but most of these plans were subsequently carried into routine plantation developments. The year 1947 saw major advances in development of the forest estate. These included the start of an active, on-going programme of road construction into untapped forest areas, introduction of systematic aerial survey, photo interpretation and mapping, extensive forest assessment and adoption of a tighter control on sales of forest produce involving checking stumps in the bush.

In 1950, the *Rural Fires Act* replaced the *Bush Fires Act* 1935 which had made the Forestry Department responsible for protection of Crown land from fire. Under the new Act, a Rural Fires Board was set up, but still with the head of the forest service as its chairman and, effectively, its chief executive. This remained the situation until the *Rural Fires Act* of 1967 set up an autonomous authority for the control of rural fires.

During the period 1954-58, two Tasmanian foresters, Messrs J. M. Gilbert and T. M. Cunningham, under the terms of fellowships, carried out basic research on the regeneration of eucalypts. This work formed the basis of modern regeneration techniques.

Nineteen sixty-two-sixty-three saw the start of paper pulp production at the Port Huon mill of Australian Paper Manufacturers and of particle board at A.P.P.M.'s Wesley Vale mill. In the same year, the Commission began a major pine plantation project at Fingal, largely as a labour absorptive activity following a down-turn in the coal mining industry.

*Bush Fires:* In February 1967, southern Tasmania was ravaged by bush-fires which cost 62 lives, destroyed 1 400 houses and cottages, and burned over 200 000 hectares of land, including 57 000 hectares of commercial, State-owned forest.

In the same year the Commonwealth-State Softwoods Agreement, designed to step up the establishment of exotic softwood plantations came into operation. Dedication to State forests had then reached 1 012 000 hectares.

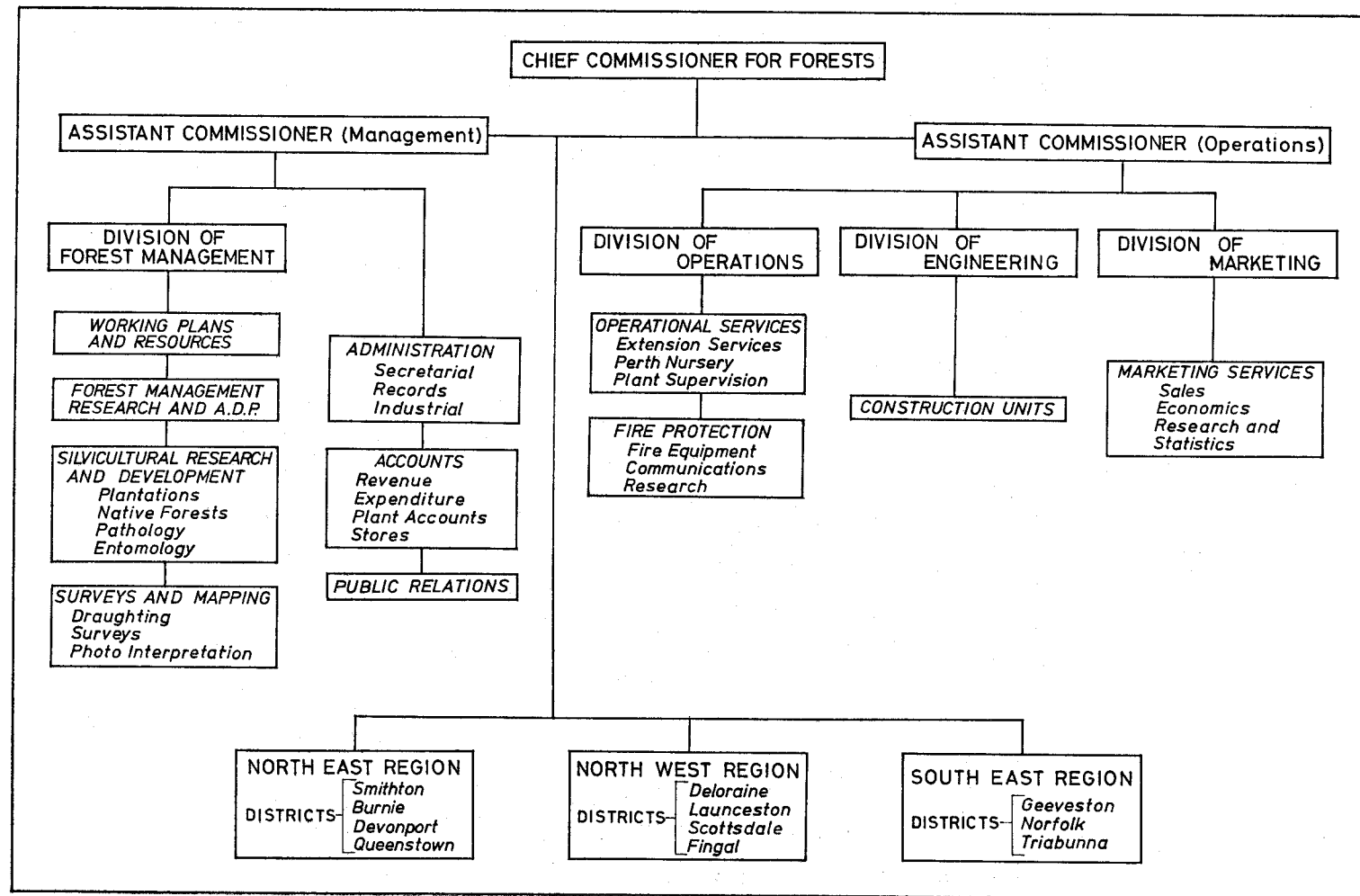
*Woodchips:* During 1970-71, production of hardwood chips for export to Japan began at the Triabunna mill of Tasmanian Pulp and Forest Holdings Ltd. In 1972, two more woodchip factories—A.P.P.M. and Northern Woodchips Ltd—began exports to Japan from their plants at Long Reach. The increased availability of a market for pulpwood has become a major tool in the successful management of State-owned forests, permitting integrated wood harvesting and systematic regeneration of the forest estate. At the same time, the Commission acknowledges the need for, and is working towards, a practical compromise between the commodity production and environmental benefits offered by a sustained forest resource.

### The Policy of the Tasmanian Forestry Commission

Commission policy seeks to systematically manage the Crown forest estate and its renewable resources in perpetuity, with the aims of ensuring stability in the wood-based industries while maintaining acceptable standards of forest environmental values.

It seeks to implement this by:—

- (i) The dedication to permanent forest use as State Forests of all productive forest lands not held under tenure as private property or as National Parks or other reserves. A minimum target area of 1 618 000 ha (four million acres) has been accepted.
- (ii) The continued protection of the forest estate from damage by fire, insects and disease.
- (iii) Extending the integration of use of forest products to reduce wastage, to provide an improved harvest of sawlogs, to service the expanding market for hardwood pulpwood and to enable efficient programmes of forest regeneration to be undertaken.
- (iv) Rapid escalation of regeneration programmes to cope with reforesting the increased area of forest harvested by integrated logging.





- (v) A steady annual programme of softwood plantation establishment located in selected areas where large units of softwood forest can be aggregated.
- (vi) Increased research activity to progressively improve forest health and growth and the techniques of forest regeneration and fire protection.
- (vii) Inculcating standards of forest management and harvesting so as to satisfactorily protect and maintain environmental forest values such as air and water quality, wildlife habitat, aesthetics, recreation, etc.

### Staff

#### *Establishment*

Permanent staff controlled by the Forestry Commission in July 1975 numbered 744 of which three were Commissioners, 301 were employed under the *Public Service Act* and 440 were award employees. Included in the staff are 44 professional foresters, 7 surveyors and 3 engineers. In addition there is provision for making casual engagements for fire fighting teams.

#### *Recruitment and Training*

For many years after World War II, heavy reliance was placed on recruiting trained staff from British Commonwealth and other overseas countries. However, the Commission's needs for professional and technical forest staff have, for some time, both been met by the State's own training schemes.

*Professional Foresters:* Scholarships to undertake a four-year Bachelor of Science in Forestry degree are provided by the Australian Government and the State Government. Usually, the course consists of one year at the University of Tasmania, followed by three years at the Australian National University in Canberra.

*Technical Officers:* The Commission's scheme for training forest rangers, forest assessors and research assistants has developed steadily during the past two decades. It is essentially a programme of in-service training in which trainees are progressively attached to various headquarters and work under the supervision of experienced senior officers on different facets of forestry. There is an initial training period of four years, which includes some eight weeks of residential theory schools. After passing a theory examination at this stage, the trainee spends two years as assistant to a practising field officer before being eligible to undertake his final practical examination.

### Finance

The work of the Forestry Commission is financed by forest revenue, loan funds and periodic special grants.

The proceeds from forest revenue include all royalties, rentals, profits from sale of plant stock, the conversion of forest products and income from other Commission activity. This money, by law, is set aside for the use of the Commission in the next financial year. This source of revenue in 1973-74 accounted for 40 per cent of the Commission's total expenditure and covered such items as salaries and wages, general administrative expenses, loan interest and road maintenance.

#### *Loan Funds*

Loan funds are made available to the Commission through monies allocated by the State Treasury from amounts provided by the Australian Government for capital works and through special loan funds provided under the *Commonwealth-*

*State Softwood Forestry Agreement Act*. Loan funds in the first category accounted for 49.5 per cent of expenditure in 1973-74. The Commission pays interest on this money after 10 years and the funds are used for such works as plantation and nursery establishment, development of roads in plantations and forest areas, protection and regeneration of native forests, buildings, management and planning.

Loan funds provided under the *Commonwealth-State Softwood Forestry Agreement Act* also involve interest payments after 10 years. In addition, the principal is repayable by 50 equal half-yearly payments to take effect from 15 July 1978. This money is allocated to establish and maintain conifer plantations and accounted for 10.5 per cent of the Commission's spending in 1973-74.

### *Special Grants*

From time to time, the Commission receives special grants from the Australian Government to engage unemployed people on forest work. Such finance is intermittent and usually provided only for short periods. During 1973-74 these special grants amounted to \$103 092 and paid for labour intensive forestry operations in plantation management, protection and regeneration of native forests, road maintenance in native forests and forest park development.

### **The Forest Estate**

Of all the Australian states, Tasmania is unique in its concentration of forest resources. Native forests of potentially commercial quality cover 2 764 000 hectares, or 40 per cent of the State's mainland surface. Of this area 1 001 000 ha are privately owned and 121 000 ha are contained in State reserves or vested in non-timber producing authorities, leaving 1 642 000 hectares as publicly owned forest on either Crown land, State forests or timber reserves.

### *Forest Types*

The better quality forests largely occur where the annual rainfall exceeds 750 mm, but soil quality and the frequency of past fires also influence distribution. This productive native forest estate consists of four main vegetation types, dry sclerophyll, open, wet sclerophyll and temperate rain forests. The rain forest is principally located in the western half and to a lesser extent in the north-east highlands; the other three types (eucalypt forest) predominate elsewhere. The rainforest is characterised by the dominance of *Nothofagus cunninghamii* (myrtle), *Atherosperma moschatum* (sassafras), *Eucryphia lucida* (leatherwood) and other trees which appear on poorer soils. *Acacia melanoxylon* (blackwood) grows where rain forest has been disturbed in the past; principally where fires have occurred.

Eucalypt forests of good quality are not common on soils of reasonable depth and fertility where the annual rainfall is below 760 mm. Where the rainfall is above 1 130 mm, rain forest species appear in the understorey but are excluded should fires occur, say, every 40 to 50 years. With rainfall above 1 520 mm rain forest can exclude eucalypts. However, even with rainfall well above 1 520 mm a combination of poor soils and frequent burning produces areas of button grass and heathy plains.

### *Trees of the Tasmanian Forests*

Tasmanian forests are cut almost exclusively for hardwood (eucalypts), the slow growing native softwoods never having been very plentiful. The principal softwood species which have been utilised are *Athrotaxis selaginoides* (king billy pine), *Dacrydium franklinii* (huon pine) and *Phyllocladus aspleniifolius* (celery-top pine).

The most valuable eucalypts are those which belong to the so-called ash group—*E. obliqua* (stringy-bark), *E. delegatensis* (gum-top stringy-bark or alpine ash) and *E. regnans* (swamp gum or mountain ash). In the south and south-east *E. globulus* (Tasmanian blue gum) occurs in high quality forests. In areas where the annual rainfall is below 760 mm, the more important eucalypts are *E. amygdalina* (black peppermint), *E. ovata* (swamp or black gum), *E. viminalis* (white gum), *E. obliqua* (stringy-bark) and *E. linearis* (white peppermint).

Tasmania offers 11 tree types suitable for chipping, of which 10 are eucalypts. The eleventh is the myrtle (*Nothofagus cunninghamii*), a rainforest hardwood available in the north-west of the island. The eucalypts can be graded into:

- (i) First quality (four species)—*E. obliqua* (stringy-bark) (a) (b)  
*E. delegatensis* (gum-top stringy-bark) (a) (b)  
*E. regnans* (swamp gum) (b)  
*E. sieberi* (ironbark)
- (ii) Second quality (three 'gums')—*E. viminalis* (white gum) (a) (b)  
*E. globulus* (blue gum) (a)  
*E. ovata* (swamp or black gum) (b)
- (iii) Third quality (three 'peppermints')—*E. amygdalina* (black peppermint) (a) (b)  
*E. linearis* (white peppermint)  
*E. tasmanica* (silver peppermint)

Two species of eucalypt—*E. delegatensis* and *E. obliqua* account for over 60 per cent of all eucalypt logs cut for woodchipping. The east coast offers all 10 varieties of which the five marked (a) are the common ones. The north coast offers in useful quantity only the six varieties marked (b).

**Softwood:** Although Tasmania's native forests produce some very valuable softwood timber, these are very slow growing and in short supply. For this and other reasons, attention has been given to building up another section of the total forest estate—namely, plantations of exotic species, particularly *Pinus radiata*. At mid-1975 there were almost 25 000 hectares of State-owned pine plantations with another 10 300 hectares on private land.

### Sawmilling

An extensive sawmilling industry has been a major and traditional part of the Tasmanian scene since the mid 19th century—an industry solely reliant on native forests for its raw material. For several years, usage of logs for sawing, peeling and slicing has remained steady at about 1 080 000 cubic metres per year, producing an average output of 415 000 cubic metres of sawn, peeled or sliced timber.

### Woodpulp and Woodchips

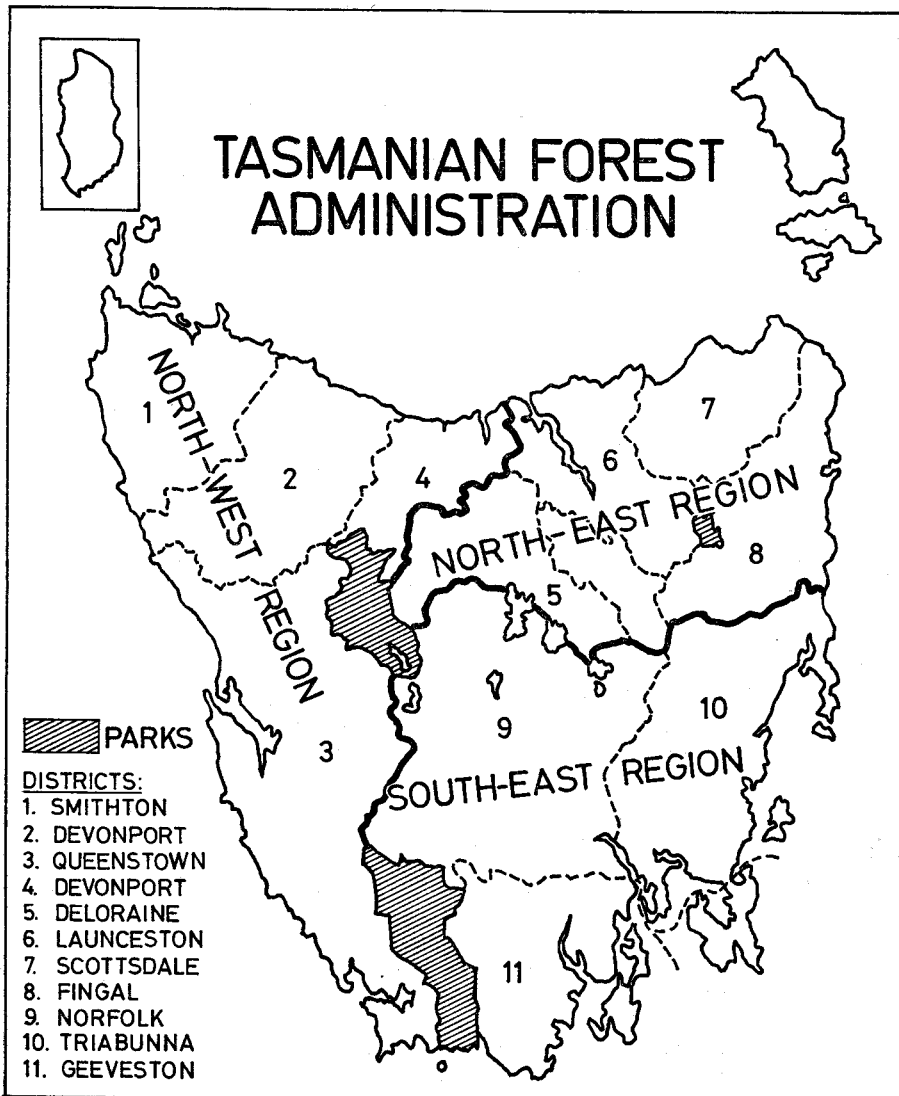
However, typical native forests produce much wood not suitable for sawmilling and in 1937 a start was made on the use of this previously wasted resource for the manufacture of paper. Since that time, the use of pulpwood has expanded, particularly in the present decade, producing pulp, paper, building panelboards and raw woodchips.

### Forest Reservation

The need for permanent reservation of land for timber production was first officially recognised by the *Waste Lands Act* 1881 and the first forest reservation occurred in the late 1880's when some 21 270 hectares were gazetted. Reservations had reached 403 660 hectares by 1910 and 651 890 at the time of World War II. An on-going programme of dedication of suitable lands as State forests in perpetuity is a firm undertaking of the Commission's policy. The area so dedicated at present is 1 345 000 hectares towards a target of 1 618 000 hectares of permanent State-owned forests managed for the benefit, both material and environmental, of future generations.

### Mapping

The availability of reliable maps of the forest estate is essential for its efficient management. Mapping for the Forestry Commission is in four main categories and is the responsibility of the Survey and Mapping Branch.



### *Administrative Mapping*

A separate sub-section of the cartographic staff is engaged in the very considerable volume of mapping and recording of the Commission's dealing in land. This includes the regular up-dating of land charts and plans of land bought or sold by the Commission and recording dedications and revocations of State forests.

### *Specialised Mapping*

*Native Forest Type Maps:* In 1948 the Commission embarked on a programme of detailed mapping of the native forest areas of the State, a programme which has been followed systematically so that now more than half the timbered areas of Tasmania are covered by medium to large scale mapping. These maps are produced mainly from vertical aerial photography which has been subject to intensive interpretation as to forest species, height and density classes. New mapping is being produced at the rate of 60 000 to 100 000 hectares a year, while existing mapping is updated regularly for new roading systems and changes in land tenure.

*Softwood Plantation Maps:* About 2 000 hectares a year of land planted with exotic softwoods is mapped in detail to a scale 1:10 000. This work also is done with the aid of aerial photography and stereoscopic plotting machines, but it is complemented by extensive ground control and detailed mapping by the Commission's survey staff. These maps form the basis for subsequent management and harvesting of the forest.

*Native Forest Regeneration Maps:* A new series of maps is being produced, based on the standard forest type maps. These show areas of controlled regeneration of native forest. They will be used as a tool for use in the Commission's felling, seeding, fire protection and management of regeneration areas.

## **Forest Assessment**

To effectively manage the State forests and the forested Crown lands under its control, the Forestry Commission must have estimates of standing timber volumes, growth rates and yield predictions, as well as knowledge of the factors controlling them.

The Commission's Management Branch has developed a variety of ways to achieve this.

### *Native Forest*

Assessment is made at two major levels. Where little is known of an area there may be low intensity sampling to provide a resource level assessment of standing volumes over a large area. This may be followed later by a more intensive, management level assessment to provide volume estimates for quite small, compact areas of forest.

*Mature Assessment:* Three types of mature assessment layout are commonly used:

- (i) *Systematic strip lines*, used when management level information is required, consist of parallel strips over the area to be assessed. The strip lines form a continuous series of plots 200 metres long by 20 metres wide in which girths and heights of main species are measured and merchantability is estimated.
- (ii) *Selected strip lines* are used when resource level information is needed. Here, strip lines are laid out for maximum sampling intensity in the merchantable forest types.

- (iii) *Random plots* are also used for resource level assessment and are laid out to sample the forest types mapped. Rectangular plots are chosen at random and orientated with respect to contours to give maximum sampling efficiency. Plot positions are located by surveying from known points or from a point plotted from aerial photographs.

*Regrowth Assessment:* The layouts used in the mature assessments are also used for regrowth assessment. Resource level assessments usually are carried out by random plots, and management level assessments by systematic strip lines in selected areas of regrowth.

*Continuous Forest Inventory:* While resource and management assessments give estimates of current standing timber volume, it is highly desirable to also obtain periodic estimates of future volumes and increment. The total effect of the variable factors controlling the yield from the forest—notably growth, regeneration, cutting, fire and disease—can then be assessed, thus giving the forest manager the tool he needs for effective forest management.

Continuous forest inventory is therefore being established in the native forests. Sampling consists of a combination of permanent and temporary plots, with partial replacement technique and a five-year re-measurement cycle.

#### *Pine Plantations*

In order to provide estimates of present and future standing volumes, thinning and final crop yields, and to enable construction of yield and stand tables, a comprehensive system of permanent yield plots has been established in pine plantations. Yield plots are established as a 0.4 per cent sample within the existing range of age, spacing and site index variations. Thus, the location of these plots depends on the prior site indexing of all plantations. Site index mapping is carried out when a stand is 10 years old, using a 12½ per cent systematic sample with circular plots spaced at 40 metre intervals along strips 40 metres apart. The site index used to be expressed as the mean dominant height of a stand at age 15 years; mean dominant height of a stand at an age of 20 years is now used. From measurements on these plots site index maps have been produced.

Yield plots are located subjectively within plantation strata according to the mean site index, basal area per hectare and merchantable stocking of the strata obtained from field mapping. The plots, which are rectangular and 0.08 hectares in size, are established at age eleven years and routine re-measurements are carried out at three yearly intervals, usually preceded by temporary thinning marking. 'At thinning' re-measurements are also carried out to give continuity of growth records and thinning yields. At each re-measurement all trees are girthed and the total of all heights is measured for a sample. In addition, such details as form and damage are recorded to provide estimates of merchantability.

#### *Volume and Yield Tables*

At the same time as the data about the forests and plantations is collected, the necessary volume and yield tables from which expected volumes and increments of the various forest produce are calculated.

#### **Processing of Field Data and Planning**

As there is tremendous variation in the shape of trees, their distribution and the way they grow, collection of a large amount of data is necessary to arrive at results of acceptable accuracy. It follows that the calculations and statistical analyses needed to convert these field measurements to meaningful values, such as volumes of sawlogs, pulpwood, growth rates, etc. are complex indeed.

*Information Systems*

This very complexity makes forest inventory and management an ideal case for the use of computers, and an increasing amount of the data collected by field staff is used in computer based information systems. These systems take data from field measurements, or from maps or aerial photographs, check them in every possible way for errors or inconsistencies, perform the necessary calculations to convert the raw data to more meaningful values such as volume and then store the results, together with the initial raw data, in 'master files'. These master files are usually held on magnetic tape so that they can readily be fed into the computer for retrieval of information whenever required.

The master file for a particular system is so arranged that selected information can be extracted, summarised as desired, and the results printed by the computer in the form needed for a particular purpose. It is impossible to foresee all the future applications for information, hence the need to store all the basic data on a master file, with no condensation, to allow utmost flexibility in its extraction.

*Management Research*

The information on the master files is also used extensively for research, particularly to develop mathematical functions expressing growth of stands and the relationships between the various quantitative features which can be ascribed to trees and stands of trees (e.g. age, height, diameter, bark thickness, tree form, wood volume, stand density, etc.). These growth functions can then be supplied to the planning section for incorporation in computer programmes which simulate the growth and yield of forests under various conditions.

The research section has been closely involved also in the design of forest inventory and of sampling techniques in general. A current project is the inventory of large areas of rain forest in north-west Tasmania, where several levels of sampling are to be used. These range from determining forest type at selected points on aerial photographs to cutting up trees to determine the amount of internal defect.

*Planning*

Once in possession of the processed information based on field measurements and research, the management planners are in a position to systematically prescribe the most suitable treatment for any particular area of either exotic plantation or native forest. On the one hand, decisions can be made as to the size, layout and annual programme for plantation development, and on the other as to the scope, location and volume of harvest which can be taken from native forests. The major aim here is to keep the annual volume of wood cut within the forest's yearly growth capability, hence ensuring maintenance of the forest estate in perpetuity.

This aim must be pursued while seeking to meet the following requirements: (i) to provide the wood fibre for existing Crown land based forest industries on a continuing basis as far as possible and to provide the wood fibre needed for planned establishment of new forest based industries; (ii) to develop resources of plantation softwoods which, in turn, will support new industries and complement the native forest resources; (iii) to provide the community with minor forest produce, such as poles, piles, posts and firewood; and (iv) to satisfy the community dependence on the non-wood values of forest land, such as water catchments, scenery, wildlife habitat, recreation and other environmental factors. To achieve these goals a planned sub-division of the forest into compartments and coupes (cutting areas) is first prepared and possible roads for logging and access are indicated, while areas to be reserved from cutting for any reason are delineated.



A five-year plan of operations is then prepared and this prescribes detailed forest management for the area covered, including schedules of coupes to be harvested and roads to be built each year.

### **Roading and Forest Works**

Construction and maintenance of roads and bridges for timber extraction in native forests is the main function of the Commission's Division of Engineering. When an area is fully roaded it is handed over to the appropriate region for subsequent maintenance. Major road networks which have been completed and handed over consist of the Roses Tier (18.6 km) and Mersey Valley (185 km) systems, while construction is still in progress in the Huon and South Arthur areas.

Work in the Huon area began in 1947 and, to date, about 400 km of heavy duty all-weather logging roads have been built. The current construction rate is about 7 km a year. The one major structure in the area is the Tahune Bridge over the Huon River. Timber is being extracted over the system at a rate of 80 000 m<sup>3</sup> of sawlog and 147 000 tonnes of pulpwood a year.

Construction began in the South Arthur area, generally south of Smithton in 1966 and, to date, about 140 km of heavy duty all-weather roads have been built. The current construction rate is about 20 km a year. Major structures are the Tayatea and Kanunnah Bridges both spanning the Arthur River. Timber is being extracted over the system at a rate of 75 000 m<sup>3</sup> of sawlog and 88 000 tonnes of pulpwood a year.

In many parts of the State, the Commission has an established staff of Public Service and award employees permanently engaged on other major construction and maintenance works programmes. These variously involve roading, native forest surveys, management and regeneration, softwood plantations and nurseries, forest protection and control of harvesting.

### **Harvesting and Sale of Forest Products**

#### *Control*

Significant control over cutting on public lands was not achieved until introduction of the provisions of the *Forestry Act* in 1921. Allocation of cutting was then made on a sale area basis but was largely unplanned and related only to the sale of sawmill logs and some minor forest produce.

It was not until the commissioning of the early paper mills in 1938 and 1941, that any attempt could be made to achieve full utilisation of merchantable wood on a planned basis. Expansion of pulpwood-using industries in the 1960's and again in the 1970's set the stage for the general application of systematic and planned forest utilisation. These developments, combined with extensive research into regeneration techniques during the last 20 years, dramatically widened the application of planned harvesting and reafforestation of the State's native forests. Approximately 85 per cent of production from Crown forests is now achieved under integrated operations whereby the whole crop of merchantable sawlog and pulpwood is simultaneously harvested and then regenerated.

#### *Authorisation and Allocation*

For some years privately owned forests have supplied about one third of the State's production of sawlogs, with the remainder coming from publicly owned forests. The Commission has no jurisdiction over private forests but is responsible for the control of all timber sales from Crown forests in accordance with the *Forestry Act* 1920 and subsidiary legislation.

As the demand for timber supplies exceeds the calculated annual availability, the wood-using industries are required to operate within Commission-controlled allocations. Priority for sale of mill logs goes to sawmills recognised as having dependence on a Crown log supply, usually first established by competitive tendering. Major sales of pulpwood are authorised by specific legislation conferring long term exclusive rights on a particular company for a specific concession area. Day to day cutting is regulated within fixed maximum and minimum annual volumes by the issue of cutting permits or licences. These limits are usually stipulated by working plans which have been based on the earlier field assessment, data processing and planning.

### *Supervision*

Control of logging, forest practice and utilisation standards is the responsibility of territorial officers in the forest regions, districts and ranges. The coupes, or cutting areas, laid down in the five-year plans first have their boundaries marked on the ground. Wherever possible, these boundaries are situated on natural features which will assist with regeneration treatment, control of fire and consideration of aesthetic and ecological values. Logging plans are drawn up for each coupe to show areas to be logged in dry and wet weather and giving consideration to conditions specific to the area. Each logger is allocated a section of a coupe and his operation is supervised by a forest ranger for compliance with the conditions of sale. The Commission prescribes compulsory minimum standards for sawlogs and pulpwood. The logger cuts, brands and measures the logs accordingly. Forest officers spot check utilisation standards in the bush, on the truck or at the mill. The volume of sawlog harvested is calculated in cubic metres from measurements of centre diameter and log length made by the logger and checked by forest officers. Pulpwood is sold by weight. Royalty is paid on all forest produce removed.

### *The Commission, Industry and Private Forests*

The Commission is the major supplier of wood fibre to industry. Two-thirds of supplies are from Crown land and one-third from private holdings, so that the Commission is of necessity, closely associated with industry. This applies from the initial stages of supplying estimates of forest resources, preparation of legislation, helping to obtain samples of forest produce for testing and with preparing operational working plans. In particular cases help is given with planning rational road location and with arterial road making in some forest areas.

Operational planning takes into account the annual volumes of pulpwood and sawlogs needed each year and estimates are made covering a further period of four years so that a full five-year term is considered when plans are reviewed jointly each year. The responsibility for planning generally lies with the Commission, but in consultation with industry. Road construction is shared to a varying extent between industry and the Commission, while regeneration after cutting normally is the responsibility of the Commission. Logging invariably is conducted by industry, with the Commission exercising oversight both of the segregation of sawlogs and pulpwood and of the standards of utilisation. This supervision seeks to achieve optimum production of sawlogs for the milling sector, to ensure fullest use of the total merchantable resource, to enforce practical measures of environmental protection and to facilitate subsequent regeneration operations.

The State Forestry Commission has no control over private forest lands. However, advice by an extension service is available to land holders who wish to re-establish or manage their forests. Calculations of annual yield to be expected from the total private forest estate have been completed and the State Government,

on advice from the Commission, has exercised some control to reduce cutting over private lands by recommending the rejection of applications for additions to existing or new woodchip export licences.

### Reafforestation

#### *Native Forests*

Before and after the creation of the Forestry Department in 1920 significant areas of forest regeneration occurred due to the natural characteristics of eucalypt forests. These naturally occurring regrowth forests, on Crown and private land, are now making a significant contribution to today's production of sawlogs and pulpwood. Planned forest management is necessary to maintain full production of forest products. Indeed, former uncontrolled cutting or unsuccessful attempts to use forest lands for other activities, did, in many areas, seriously reduce the growth of useful wood. Following intensive research into regeneration techniques, the Commission is now able to achieve a very high level of success in re-establishing eucalypt forests, and its programme of regeneration after logging of pulpwood is based on natural regeneration processes.

There is a wide variation in the silvicultural characteristics of the eucalypt forests harvested in Tasmania for pulpwood and sawlogs. These characteristics can increase the cost of regeneration from a nominal figure to \$250 or more per hectare. Many better quality forests have been selectively cut for sawlogs over many years and the Commission was financially unable to begin a large scale regeneration programme until a market developed for pulpwood. Even had funds been available, earlier treatment would have involved destruction of large volumes of this valuable forest product. As soon as the demand for pulpwood increased, as it did in the early 1970's, so too did the scale of assisted native forest regeneration and the area treated is now approaching 10-12 000 hectares per annum. A programme of this order is necessary to match currently planned peak production from the forests.

#### *Regeneration Technique*

The practice usually followed is to hold the debris on a felled-out coupe until the following autumn, when it is burnt intensively under selected conditions. This burn has multiple aims: to remove the hazard of falling debris, to cover the felled area without escaping to damage surrounding coupes, but most significantly, to prepare a seedbed suitable for the germination and growth of native forest seed. It has been found that on most sites the best seedbed results from a very hot burn which has partially sterilised the upper layers of the soil and so reduced competition from soil micro-organisms for a short period. In these conditions, seedlings grow very strongly and show what generally is known as the 'ash bed effect'. Though a hot regeneration burn is desired it has to be confined to prescribed boundaries, and it can be difficult to achieve these two (often incompatible) objectives together. However, both can be achieved by carefully planning the boundaries of burns so that they are placed on suitable topographic features or against non-inflammable vegetation, by starting the fire away from the boundaries and working out to them and by waiting for suitable weather. The essential elements here are a lack of wind and conditions which are dry but not too dry. Years of experience have shown that days with such elements are uncommon and, in fact, set a limit to the number of burns which can be made by any one independent administrative unit in a season.

*Aerial Sowing:* Seeds of many species are stored in the soil but those of the *Eucalyptus* are not. Some natural regeneration does occur, from seed on remnant trees and from coppice shoots or advance growth from seedlings present before felling—particularly in drier forests. However, to ensure full regeneration of the

site, sowing of additional seed is normal, usually of the same species as the original crop. Short twigs bearing capsules, or 'gumnuts', are collected from felled trees and are dried in heated kilns for about two days. The minute seeds are then released, fall to the floor, are cleared and then stored in sealed tins. Batches of seed are kept separately according to species and altitude of collection. Prior to sowing, the seed is mixed with kaolin clay and latex to form pellets about the size of a grain of sago in which are included small quantities of insecticide and fungicide to protect the seed prior to germination. The pellets are then sown from the air by modified crop-dusting aircraft. If seed bed preparation has been adequate and seed has been sown at the right time, usually as soon as possible after the establishment burn, the essential conditions for good eucalypt regeneration have been achieved and good regeneration usually follows. However, partial failures where the density of eucalypt plants is less than the optimum do sometimes occur. These often are attributable to poor burns, but some have been the result of browsing by wallabies and possums. The animals tend to shelter by day in surrounding forest and move at night to feed in regeneration areas on the young plants which are very palatable and within reach. Eucalypts recover well from browsing but, where animals become a threat to satisfactory regeneration, a crop protection permit is obtained from the National Parks and Wildlife Service and animal control is undertaken. Poisoning by 1080 is the usual method, though, where suitable, the more selective method of shooting is applied.

For the four years from 1969 to 1973 only one fifth of the area regenerated needed game control, one operation being enough to protect the regeneration on any area, but the proportion in later years has been even less and is associated with a change to larger regeneration areas. These present a large area of food for the animals so that their effect on individual plants is much less. Once the plants exceed a height of 60 cm they are out of reach of browsing animals. Browsing by domestic stock must be excluded for a similar period.

### *Softwood Plantations*

*History:* There have been two stages in the Commission's programme to establish softwood plantations. The first was reafforestation of land formerly occupied by high quality forests, which had been destroyed by agriculture or mining. As a general statement, the land had reverted to scrub and bracken and planting, mainly with *Pinus radiata*, was undertaken with the specific intention of making sawlogs available in the shortest time. Extra sawlogs were needed to offset expected reduction in availability of hardwood logs. During this stage, between 1935 and 1960 some 5 700 hectares of conifers were established. Clear felling of the oldest plantations now is about to begin in the Scottsdale district.

The second stage in establishment of conifer plantations began in 1961. In addition to an increase in availability of sawlogs it became desirable to produce long-fibred conifer pulpwood for the large scale Tasmanian pulp and paper plants. The final pulp mix for processing through the paper machines must contain 15-25 per cent pulp from such long-fibred softwood. The planting rate was increased. In addition to reafforestation of scrub and bracken covered land the programme included conversion of some lower quality eucalypt stands to conifer. Initially, there was some undesirable waste of pulpwood. However, all suitable eucalypt pulpwood on areas being converted to pine now is used in a local pulp factory or is exported as woodchips. From 1961 to 1974 the area of plantation was increased from 5 700 to 23 200 hectares. This present area represents about one per cent of the State's total productive quality forest.

*Current Planning Programme:* From 1966 to 1975, the Australian Government has advanced finance to help the states maintain a high level of planting, which during recent years in Tasmania has been at a rate of 1 860 hectares per year. Private firms have maintained a planting programme of about 600 hectares a year. Although the scope of future plantings now is being reviewed, it is the rate of planting that is under review, rather than the total area to be planted. The total area of plantation needed to meet projected requirements for sawlogs and pulpwood is about 81 000 hectares. This area will be about three per cent of the total area of productive forest land in Tasmania. However, establishment of this area is a most important segment of the overall forest management planning to ease pressure on the use of native forests.

*Pinus radiata* still is planted almost exclusively. It can be raised easily in the nursery and is a hardy plant capable of growing over a wide range of sites, preferably with an annual rainfall of 750 mm or more. Other exotics such as Douglas fir have been and are being planted, but at very low rates. These exotics have nursery and establishment problems not experienced with *Pinus radiata*. They also have slower growing rates.

Although there are similarities between reafforestation with pines and with eucalypts, these are restricted largely to the preparation of the area to be treated. Major differences are that whereas eucalypts are usually sown from seed on site, pine plants are planted out by hand and at this stage of forestry development in Tasmania, pine plantations are more intensively managed than are eucalypt areas. This intensity of management is a reflection both of the cost of capital investment and of ultimate productive capacity per hectare which is very high indeed.

*Planning:* An overall working plan and one or more sub-division plans covering a number of years of development are produced well in advance of any plantation work. A working plan specifies in broad terms the development of a plantation in relation to wide regional considerations, while the sub-division plan lays down in greater detail which compartments are to be planted and in what order. It also delineates areas to be left under native forest for environmental or site considerations such as topography, low productivity, skyline reserves, wild life refuges or stream-side strips where necessary.

*Plantation Establishment:* After salvage of any commercial timber the planting site is prepared by a burn to remove as much debris as possible and, on gentle slopes, the soil may be cultivated. In winter, when soils are moist and plants are not growing, one year old seedlings from nurseries at Perth (near Launceston) and Branxholm (west of Scottsdale) are planted at a rate of 1 300 per hectare. The young plants need to be protected from browsing in the same way as do young eucalypts. Protection from rabbits is also necessary in some plantations. Control of woody weeds can be important, as these can outstrip the pines when they are young. Slashing of weeds can be done, but usually they are killed by an application of herbicides. The two most reliable techniques are the spraying of the lower parts of the stems of the weeds or, on larger plants, injection of the herbicide through the bark. These methods are expensive because they need much man power. This, however, is desirable in some plantations where large numbers of men are employed for social reasons. Aerial spraying is possibly a more economical alternative in some places and is being investigated.

As it is Commission policy not to establish pines on better sites growing native forest of high productivity, fertilising with nitrogen and phosphorous is sometimes needed and is initially applied by hand around each seedling, using a mixture of superphosphate and urea. Where there are major deficiencies of phosphorous a secondary application by air may be necessary some years after planting.

High density planting restricts branch size and prevents excessive weed growth. Tasmanian plantations are managed under a 'production thinning' technique. This entails frequent light thinnings which are sold as pulpwood or sawlog depending on size. Associated with this is a three stage pruning programme which ensures that selected trees are high pruned to give about seven metres of knot-free timber. A rotation age of about 35 years to maturity is assumed with a final crop stocking of about 200 trees per hectare.

### Silvicultural Research and Development

#### *Native Forests*

Formal studies into the regeneration of wetter eucalypt forests began in the early 1950's when the processes of their natural regeneration were elucidated and subsequently applied at field production levels. More attention is now being paid to older stands of such wetter types. Results of these studies, which include the effects of the competition of understorey species on the growth of eucalypts and ways of stimulating seed production, will be of value in understanding the silviculture of all eucalypt forests. Other studies are independent of forest types. Noteworthy examples are the continuing programme of seed pelletising trials to develop a better technique than the current method using D.D.T. and T.M.T.D., and studies of seed germination.

In recent years there has been much work on the regeneration of dry sclerophyll and open forest types, largely in connection with their use as a source of pulpwood for export as woodchips. This was intensified in 1968. Earlier work concentrated on problems of obtaining regeneration in areas cut over for sawlogs and used for grazing. This work has been broadened to include other projects studying problems in the maintenance of an uneven aged stand structure brought about by past logging. New studies have been initiated in most phases of the regeneration process, from the use or non-use of fire to prepare a seed bed, through supply of seed, to protection of young plants, and are expected to suggest refinements to field practice.

A programme of work in rain forests recently has been started. It is aimed at discovering their natural processes of regeneration and how they can be regenerated after logging.

There is a very active programme of pathological and entomological research in which the basic causes of forest diseases and the ecology of insects are being studied so that management can be soundly based. In the case of regrowth dieback the Commission is helped by the Division of Forest Research of the C.S.I.R.O., which has undertaken to study its causal agencies.

#### *Plantations*

Research in plantations of exotic conifers, chiefly *Pinus radiata*, covers all phases of their cycle, beginning with site selection. As the Commission's policy is not to establish conifers on sites growing native forest of high productivity, trials of sites and fertilisers are important. Species and provenance trials have been established while pine seed to produce plants for routine plantation establishment is coming in increasing amounts from the Commission's seed orchards at Castra, Natone and Gould's Country. Preparation of sites, including those that will carry a second crop of pine, and methods of tending young plantations are being studied to establish ways to cut costs and speed tree growth. Pruning and thinning prescriptions have been laid down, but are being reviewed. A parallel programme in eucalypt plantations is concentrating on trials of sites, species and provenances. Although the Commission itself establishes only a few hectares a year, it is involved in a co-operative programme with private companies whose work complements that of the Commission.

Through its contribution to the National Sirex Fund the Commission supports Sirex wasp research. It also supports research by the Soils Division of the C.S.I.R.O. into pine nutrition.

### Forest Protection

Of all the agencies harmful to Tasmanian forests, uncontrolled fire has been and remains potentially the most damaging. Biological diseases and pests, though significant in some local cases, are of lesser general danger.

#### Fire Protection

The responsibility for fire control within fire protected areas, which include State forest or Crown land, lies with the Forestry Commission. In broad terms, half of the State is forested and fire protected areas cover one quarter or 1 340 000 hectares. About two thirds of this is eucalypt forest and one third rain forest; however, both these areas include one fifth of scrub, plains and waste land. The open, poorer quality *Eucalyptus* in the lower rainfall areas will burn in most years. Often these fires will be mild and will not damage the trees. In such areas, the amount of fuel available for fires can be reduced by burning with fires of low intensity when suitable fuel, moisture, wind and humidity produce controllable fires. This cannot safely be done in the moister, higher quality eucalypt forest and the rain forest. Here fires tend to be less frequent but, in drought conditions, to be more severe and less responsive to control. The plains, waste land and scrub near the forest generally can be burnt about once every six to ten years without apparent harm. These often are the areas in which fires start and which are inflammable for longer than the better forest.

*Bushfire Causes:* Most of Tasmania's forest fires are man-made, arising from the use of fire in some form which has not been kept under control. They are mostly associated with land clearing, road construction, logging, mining, hunting, fishing, camping or other activities with a risk of fire accidents occurring. Smokers and incendiaries account for a small proportion. Lightning causes very few fires and outbreaks due to other natural causes are very rare.

The average annual rainfall for most of the commercial forest is between 1 500 mm and 750 mm and is more or less evenly distributed throughout the year. Fires generally will burn between early December and late March and seasonal severity varies from very mild to relatively severe due to drought. Most fire damage is done on a very few days with strong north-westerly winds ahead of a cool change which may be wet or dry.

*Fire Detection:* The aim of forest fire protection is to suppress all unwanted fires as early as possible. Thirty lookout towers are manned on days when fires are likely to do most damage. These cover the main forest areas and are the prime means of fire detection. Forest employees and others also report fires, while road patrols extend the range of the tower when visibility is cut by smoke. Aerial detection has not been used significantly. Radio communication uses a V.H.F./F.M. simplex radio system linking the towers with 11 district base stations, some 320 vehicles and portable units. Co-ordination of radio frequencies enables fire communications with the Rural Fires Board, all 49 municipal council networks, the paper and woodchip companies, police, the Public Works Department, the National Parks and Wildlife Service and others. This radio network enables immediate despatch of fire crews and prompt organisation of other fire fighting resources.

*Fire Fighting:* The first attack crews use light weight (1 500 litre) tankers and hand fireline construction methods. On larger fires, bulldozers and hand crews build firelines, while tankers are used for mopping up persistently burning materials



within the fire edge. The main source of fire crews are the Commission's 440 award employees, while loggers and sawmillers provide the main reserve of fire fighters. Fire plans for each district describe the organisation and list the fire fighting resources. These resources include many private bulldozers for which the Commission automatically provides insurance cover when they are used for fire fighting. Access to fires is provided by roads used for logging supplemented by fire protection roads and firelines—totalling in all some 3 000 km.

### Diseases and Pests

*Sirex*: The *Sirex* woodwasp, *Sirex noctilio*, has been and still is present in several plantations of *Pinus radiata*. In unthinned stands or those in poor condition, tree death due to *Sirex* can be common; however, the effect of this pest is kept to a minimum by good management practice, including regular thinning, and by natural and artificial spread of parasites. With this exception, plantations of exotic conifers are relatively free from damage by diseases and pests.

In the case of native forests however, quite a range of agencies cause damage and have engaged the attention of forest experts. The term 'dieback' has been used to describe a condition of eucalypt trees in which the twigs and branches of the crown, or even the whole tree, have died. Four types of eucalypt crown dieback have been recognised in Tasmania and each is named after an obvious feature of the forest in which it occurs:

*High altitude Eucalyptus delegatensis dieback* is found at higher elevations and usually is severe only above 700 m. Tree decline and death are thought to be a result of invasion of the forests by a dense understorey following a reduction in fire frequency. This reduces soil temperature enough to upset the root/shoot ratio by causing reduced growth of roots. Periodic cool fires to prevent development of dense understorey is the management tool intended to maintain healthy regeneration of *E. delegatensis*. Most areas of this dieback have been cut over for sawlogs and some have been regenerated following pulpwood logging.

*Gully dieback* occurs in the north-east in dry sclerophyll forest in which a little wet sclerophyll forest has developed in gully bottoms. The species with massive death is *E. obliqua* which is the major dominant in this strip of wetter forest along the gully bottoms and shows a severity of death from nil to practically complete. Study of *E. obliqua* trees and soil has not revealed any pathogens that could be held primarily responsible. It is thought likely that severe drought, during which intense insect defoliation also occurs, is the primary cause of death. The honey fungus *Armillariella mellea* is present in the gullies and appears to have killed some trees weakened by the drought. Management of the disease involves salvage as far as it is economically possible followed by regeneration to *Eucalyptus*. However, some areas are being converted to plantations of *Pinus radiata*.

*East coast dieback* is of importance principally on low, poorly drained areas of the warm east coast. The disease is considered to be caused by *Phytophthora cinnamomi* which appears to be an introduced fungus to Tasmania. A large number of species, consistent with the known host range of the fungus, are diseased and many are killed. Very susceptible trees to this disease in Tasmania are *E. obliqua*, *E. sieberi*, *E. amygdalina*, while *E. globulus*, *E. ovata* and *E. viminialis* appear field resistant. Many understorey and ground layer species also are killed by *Phytophthora cinnamomi* which probably will have its major impact on land other than State forests. Management of east coast dieback on State forests will include sowing higher seed quantities and including at least some resistant species. Measures to reduce artificial spread of the fungus are also being investigated.

*Regrowth dieback* is found in wet sclerophyll forests in stands of regrowth up to 95 years old. Some, but not all, of these originated after early logging. The dieback is especially widespread in the south but is found also in the north-east and north-west. It was observed first in 1964 and appears to have accelerated in recent years. If the trend continues, this dieback is going to be extremely important. The main species affected are *E. obliqua* and *E. regnans*, with *E. globulus* and some other gums showing a degree of field tolerance. The cause of the dieback is not known. Leaf defoliation by Chrysomelid beetles does occur periodically and *Armillariella* is widespread. *Phytophthora cinnamomi* is present in some diseased stands but is absent from many others. Other soil fungi causing root rot have been implicated in this dieback, but details on their distribution and importance are lacking. At present, no management techniques are known to control the disease.

In State forests, 3 500 hectares are known to be affected by high altitude *E. delegatensis* dieback, 2 800 hectares by gully dieback and 100 hectares by east coast crown dieback. Regrowth dieback is common within a total area of about 16 000 hectares, but only single trees or small groups are affected within this overall area.

The health of some patches of eucalypt regeneration has been affected by conditions which, when found in older trees, are not significant. Periodic severe frosts kill or set back growth, while leaf fungi, including *Aulographina eucalypti* and *Mycosphaerella* sp. can be important.

*Insect pests:* The major insect problem in eucalypts is defoliation by leaf-eating beetles of the family Chrysomelidae. Such attacks are most obvious in regeneration, and investigations to evaluate their significance are being undertaken. Defoliation of larger trees also can take place and this is one factor which may be contributing to the decline and death of large trees in regrowth dieback areas. *Uraba lugens*, the gum leaf skeletonizer moth, causes considerable defoliation in some years, especially of young trees and, in extreme cases, death can result. This insect may be a factor in tree decline in gully dieback areas. It is often found that myrtle (*Nothofagus cunninghamii*) dies in recently disturbed rain forests, along roadsides, for example. Such deaths are associated with ambrosia beetles (*Platypus omnivorus*) and the actual role of these beetles in the death of the trees is being evaluated. Complete defoliation of patches of silver wattle (*Acacia dealbata*) by the fireblight beetle (*Pyrgo orphana*) also occurs and the ecology of this insect is under investigation.

### Forests, Forestry and Society

The need for the forest estate to maintain a perpetual supply of raw material for wood-based industries is fundamental to modern society and its commodity requirements. Not so readily recognised are the social and ecological values for which the forest manager must cater in his long-term planning.

The economic advantage to Tasmania of its forest industry is fairly obvious; raw materials valued at \$31m were produced in 1972-73 and 'value added' in secondary processing in the paper and other wood-using industries was \$74m in 1972-73. Public utilities (such as roading, health services, water reticulation, communications, schools, etc.) in an area are often over-taxed early in the life of a new project, but must be and are developed to meet the demands placed on them. Improved facilities for tourism then inevitably follow. In the modern climate of urbanisation, forest undertakings are among the few which have a decentralising effect, drawing populations towards rural towns with a consequent lift in the living standards, the employment opportunities and the social climate of country people.

There is a growing recreational use of forests as people have more leisure time and greater mobility. During recent years much greater recognition has been accorded to recreational values in the course of forest works. Roadside picnic areas have been set aside and, as funds become available, amenities such as fire places, grassed areas, tables and seats are being provided. Larger forest parks in native forests and plantations are being set aside for reservation or development.

Since August 1971, animal sign surveys have been automatically incorporated with all native forest assessments on the east coast. These surveys have been designed in association with the head of the Zoology Department of the University of Tasmania and should provide base data to study the effects of forest cutting and regeneration on the make-up of wildlife populations. Periodic sampling of east coast streams began in 1970 before the start of cutting for woodchip production. The samples are analysed by the Government analyst to monitor any effect on water quality arising from forest use.

A permanently productive forest guarantees permanence of good water catchments, of air quality, of wildlife habitat, of facilities for forest recreation and of general forest aesthetics. These benefits, however, do not all occur automatically, but lay a heavy responsibility on the forest manager to ensure that through a policy of multiple forest use, his management and planning are sufficiently comprehensive and sufficiently flexible, to provide the most apt compromise between the needs of material production, forest environment and aesthetics, scientific investigation and biological well-being.

### **The Future and its Problems**

Forestry is akin to agriculture and other rural industries in that it is subject to rapid expansion of market demand, followed equally rapidly by contraction in depressed periods, when demand lessens and is exceeded by supply. This situation combined with the fact that the Commission is not at liberty to adequately increase royalties payable on pulpwood, creates a problem in financing a steady annual works programme. It also creates a very real problem in staffing. The Commission, unlike some other departments, must find the funds to meet all staff salaries and allowances from its own resources. Present professional staff are already overtaxed and at a time when a wider and more comprehensive range of forest services is being demanded by the public, the Commission must still tailor its recruitment to its ability to pay. It may not be unreasonable to suggest that if the general public demands wider services from its forest staff then the general public should be prepared to pay for them and not expect the bill to be met only by the royalty-paying sector.

Failure to achieve a steady planting, re-planting and regeneration programme has serious long-term effects through an inevitable shortage of certain age classes of forest required to reach maturity 40 to 80 years hence. Early uncontrolled logging for sawlogs, followed by virtually minimal regeneration, has resulted in an imbalance between sawlog supplies and pulpwood supplies from the hardwood forest. This now is being corrected, but the supply of hardwood sawlogs will diminish and possibly exhaust before the regrowth forests have reached sawlog size. To bridge this foreseeable gap, the Forestry Commission began its programme of softwood plantations and these should produce timber of sawlog size in less than half the time necessary for hardwoods. Plantation establishment has been helped greatly during the past ten years by the Commonwealth-State Softwood Forestry Agreement. Without this assistance a very real problem in financing the required annual plantation establishment of 1 800 to 2 000 hectares per year would be encountered.





*Tabune Forest Park on the Huon River*

*[Forestry Commission]*

*Ranger classifies felled logs as sawlog or pulpwood*

*[Forestry Commission]*







*Pine plantations are thinned several times before reaching maturity*



*Construction of a Commission bridge over the Arthur River*

*[Forestry Commission]*



The accepted requirement that forests should be managed for the enjoyment of the whole spectrum of the benefits they can offer mankind calls for a more intensive assessment of alternatives at the planning stage, followed by even closer controls during the execution of all forest operations.

## MINING

### Introduction

For statistical purposes, mining is taken to cover the operations normally thought of as mining and quarrying (i.e. the removal from underground or surface workings of ores, etc.), the recovery of minerals from ore dumps, tailings, etc. and ore dressing (i.e. concentration and other elementary treatment). It does not include the smelting and/or refining of metallic minerals or the processing of non-metallic minerals (e.g. limestone into cement); these operations are classified as manufacturing.

In the present Tasmanian economy, two important metals will serve to illustrate the distinction between mining and manufacturing: aluminium, produced at Bell Bay on the Tamar; and zinc at Risdon near Hobart. In terms of the previous definition, the two metals are considered to be the output of manufacturing and only a small part of their total value is attributable to the mining industry in Tasmania. In the case of aluminium, no Tasmanian ores or concentrates are used and no value accrues to the Tasmanian mining industry. A substantial part of the value of the aluminium is, in fact, accounted for by imported materials. Zinc is produced from both imported and locally-produced concentrate, but only the value of the local concentrates produced at Rosebery is included in the Tasmanian mining industry. The same principle applies with the State's iron-ore pellet industry, i.e. extraction of the ore is classified as mining but pellet-making is classified as manufacturing.

### Historical

#### *Supply and Demand*

Tasmanian mining activity has been subject to frequent and severe fluctuations, mainly as a result of changes in supply and demand, which are reflected in the market prices of particular metals. Factors which have contributed to this instability are: (i) *supply*—market prices may fall with the discovery or working of major ore-bodies; (ii) *demand*—large-scale purchases of particular metals either to meet unforeseen contingencies or to stock-pile for future requirements may lead to rises in market prices; and (iii) *technological change*—the development of more economic recovery methods may lead to the working of previously unusable large scale deposits. Developments in industry may also lead to the setting-up of a new market or collapse of an established market in particular metals.

The effects of these and other factors have been offset to some degree by the establishment of controlling bodies such as the International Tin Council. In efforts to stabilise the markets such bodies may exercise control over prices or introduce production quotas.

#### *Definition of Mining*

Unfolding the record of the various minerals produced in the State is made difficult by the manner in which previous official mining statistics were compiled. In current statistics, a distinction has been made, in broad terms, between mining a mineral and subsequently refining it to obtain its metallic content—the second process is classified as manufacturing. However, this distinction was not made in

earlier statistics and therefore historical comparisons cannot be made with any accuracy. A further difficulty occurs with regard to the value of ores which in older series were valued, in the main, according to the world price for their estimated metallic content, irrespective of whether the extraction was carried out in Tasmania, in other states or in overseas countries. Thus the earlier historical value series is inflated and does not reflect the true earnings of mineral producers within the State. In the evolution of a proper basis for current mining statistics, the chief requirement was to satisfactorily define a border between mining and factory activities and, for Tasmanian data, this was not accomplished until 1952 when the Australian Bureau of Statistics conducted its first mining census. From 1952 to 1968, the Bureau held censuses covering operations in calendar years but a new annual series was introduced to cover 1968-69 operations and those of subsequent fiscal years. The new series is conducted as part of the round of Integrated Economic Censuses (see later section 'Census of Mining Establishments').

Because of the definitional difficulties just listed, the historical account of mining in the State has been deliberately restricted largely to details of physical production; other measures such as employment, value of output, wages and salaries paid, etc. are not comparable with those used in the series commencing 1952.

## Coal

### *Early Fields*

The site of Tasmania's first mine was on Tasman Peninsula where the convicts from Port Arthur mined 61 tonnes of coal in 1834; highest production was 10 570 tonnes in 1840 but, within three years, the work ceased due to the poor quality of the coal and discoveries at other sites. The island's principal coalfields were eventually opened up in the Fingal Valley. In 1885 State production was 6 761 tonnes; in 1886, 10 558 tonnes of which the Fingal area contributed 3 881 tonnes. In 1890 Fingal had reached a dominant position and in that year accounted for 45 667 tonnes of the 54 676 tonnes mined in Tasmania.

### *Decline in Production*

By 1920 annual State production had reached 76 200 tonnes; by 1950 it exceeded 223 500 tonnes. The peak production year was 1959-60 with an output of over 304 000 tonnes but since then there has been a decline due to competition from oil. (The introduction of diesel locomotives contributed, in a minor degree, to the fall in demand but the major factor has been a change from coal to oil fuel in manufacturing industries.) Throughout the period, from 1886 till today, the mines of the Fingal Valley have been the State's principal source of coal. Coal output for 1973-74 was 122 788 tonnes; the chief consumer being Australian Newsprint Mills at Boyer.

By Australian standards, the State's black coal production has never been on a large scale and even in the year of peak Tasmanian production (1959-60) it represented only 1.5 per cent of the Australian total. N.S.W. contributed nearly 80 per cent of the total production of black coal. (This total excludes brown coal mined in very large quantities almost exclusively in Victoria.)

## Gold

The first appearance of gold mining in *Statistics of Tasmania* dated from 1866 when crushing at Fingal in the north-east produced 9 837 grams from 2 918 tonnes of quartz. In actual fact, gold had been discovered much earlier in slate rocks near Lefroy in 1849 and then at Mangana near Fingal in 1852, the second find setting off a minor gold rush to the alluvial diggings.



During 1859 the first quartz mine started operations at Fingal. In the same year James Smith (better known as 'Philosopher' Smith) and Peter Lette found gold at the River Forth and at the Calder. Reef gold was discovered in 1869 at Lefroy. The first recorded returns from the Mangana fields date from 1870; Waterhouse, 1871; Hellyer, Denison and Beaconsfield, 1872; Lisle, 1878; Gladstone and Cam, 1881; Minnow and River Forth, 1882; Branhholm, 1883; and Mt Lyell, 1886.

The largest single source of gold was the 'Tasmania Mine' at Beaconsfield which began operating in 1878. The effect of Beaconsfield operations can be judged from the following State gold production figures (in kilograms): 1877, 163.78; 1878, 715.80; 1879, 1 705.36. Employment in gold mining in 1879 was stated to exceed 2 000 men. Peak gold production for the State was reached in 1899 with 2 381.13 kilograms but this was still only a minor contribution—just over two per cent—of the Australian total.

Ranked in order of accumulated yield, the State's three principal gold mining centres were Beaconsfield, Mathina and Lefroy. The 20th century witnessed a decline in Tasmanian gold mining, as such; when the 'New Golden Gate' at Mathina closed in 1912, State annual gold production had fallen to 1 076.52 kilograms. In 1919, with the closure of the 'Tasmania Mine' at Beaconsfield, annual gold production fell to 217.89 kilograms.

Today there are no gold mines operating as such, but gold is still produced as a by-product from other minerals, principally concentrates of lead-copper, copper, lead and zinc. The assayed gold content of Tasmanian minerals mined in 1973-74 was 1 692 kilograms, compared with an Australian total of 16 239 kilograms (i.e. the Tasmanian proportion had increased to 10.4 per cent).

### Tin

In 1871 James ('Philosopher') Smith discovered 'tin oxide' (cassiterite) at Tinstone Creek near Mt Bischoff which was destined to become the greatest tin deposit known in the world. The Bischoff discovery was followed by numerous others, first in the north-east and then at Mt Heemskirk on the west coast. The Mt Bischoff Tin Mining Company, formed to work the deposit, had paid dividends totalling \$354 per \$10 share by 31 December 1907. Before production ceased, shortly after World War II, Mt Bischoff had yielded more than 81 000 tonnes of tin ore.

Some concept of the earlier scale of Tasmanian tin mining can be obtained from these export figures: average annual Tasmanian exports of tin, decade ending 1890, 3 861 tonnes; decade ending 1900, 2 693 tonnes. A mixture of export and production figures in the decade ending 1910 suggests that tin production had lifted to an annual average of 3 404 tonnes. In 1920 annual production fell to 1 331 tonnes and subsequently has often been below 1 100 tonnes.

There has been an upsurge in tin production in recent years, the result of vigorous exploration programmes undertaken in the 1960's during which potential tin bearing areas were examined. Two significant operations emerged—Cleveland Tin at Luina and Renison Ltd at Renison Bell. Both resulted from the development of known ore-bodies and the discovery of new ore-bearing lodes. The mines have introduced modern methods of underground mining and new treatment plants have been installed. Tin previously lost in plant tailings is now recovered following introduction of cassiterite flotation methods.

Main production today is centred on Renison Bell and Luina on the west coast and in the far north-east of the State. In 1973-74 the assayed tin content of tin concentrates produced throughout Australia was 10 599 tonnes, the Tasmanian component being 5 957 tonnes, which was about 56 per cent of the Australian total.

### **Silver**

The rush to the Zeehan-Dundas area, where silver-lead ore was discovered in 1882, commenced in 1888 and by 1891, 159 companies and syndicates were operating in the area. Initial rich returns led to the installation of a smelting plant at Zeehan. However, the rich surface ores were soon depleted and the field gradually declined after the closing of the Zeehan smelters in 1909.

The State still produces silver but mainly as a by-product of copper mining at Mt Lyell and zinc-lead mining at Rosebery. Operations at the Farrell Mine at Tullah were in the past regarded as 'pure' silver-lead mining because the zinc content was not recovered. The mine is now owned by the Electrolytic Zinc Company (A/asia) Ltd and the ore is treated at Rosebery together with zinc-lead ore from the company's Rosebery and Williamsford mines. In 1973-74 the assayed silver content of Tasmanian mine production was 87 918 kilograms, about 13 per cent of the corresponding Australian total. N.S.W. and Queensland are the leading producers.

### **Copper**

The history of the Mt Lyell field dates from 1883 when the McDonough brothers and Johannes Karlson discovered the 'Iron Blow' outcrop. Isolation impeded development of the field and the transport problem was not solved until 1899 when the Mt Lyell Company's railway reached Strahan. The following year the North Mt Lyell Company completed a railway between Linda and Kellys Basin. The absurdity of two railways in the same area ended in 1903 with an amalgamation of the two companies.

Low-cost pyritic smelting was perfected at Mt Lyell in 1902 and as a result a smelting industry was established at Queenstown. In 1969 the smelter was closed down and subsequently concentrate has been shipped to Port Kembla and Japan for processing.

Mt Lyell, for many years Australia's leading copper mine, still ranks high among Australian producers. The final shot was fired at the 244 metre deep West Lyell open-cut mine on 31 August 1972 bringing to an end its 37-year working life. Mt Lyell Mining and Railway Co. has resumed underground mining in the Prince Lyell field, although a small open-cut at Crown-Three will continue for several years.

In 1973-74 the assayed copper content of Tasmanian mineral production was 27 826 tonnes, or about 11.4 per cent of the corresponding Australian total, Queensland being the principal producing State. About 90 per cent of the Tasmanian total is derived from Mt Lyell ores but there is also a copper content in the ores mined at Rosebery and Williamsford.

### **Zinc**

The complex Rosebery ores were discovered near Mt Read in 1893 by Cecil Thomas (Tom) McDonald but it was not until 1925, when the Electrolytic Zinc Company of Australasia commenced smelting the Rosebery ores at Risdon, that full-scale development of the field commenced. The Rosebery mines have been in continuous production since 1925, apart from a temporary shut-down in the period 1930-1936 when depressed world zinc prices curbed production.

Mine output comes from three mines: the Rosebery mine at the foot of Mt Read (90 per cent of total output); the Hercules mine at Williamsford, some four kilometres south of Rosebery; and the Farrell mine at Tullah, on the Murchison Highway 10 kilometres north-west of Rosebery. Total annual capacity of the mining complex was almost doubled following the completion in 1971 of a new shaft at the Rosebery mine.

In 1973-74 the assayed zinc content of Tasmanian mine production was 71 961 tonnes, approximately 16.3 per cent of the corresponding Australian total; N.S.W. was the major producer of zinc bearing ores. Tasmania is still the leading producer of refined zinc, the recovery process using both local and interstate concentrates. Production constitutes about 65 per cent of the Australian total.

### Lead

The mining fields at Zeehan and Dundas were established to obtain silver from silver-lead ores; lead was produced as a by-product. Silver-lead mining has long ceased on the Zeehan fields. The Farrell mine at Tullah produces silver-lead ore which is treated at Rosebery with zinc-lead ores from Rosebery and Williamsford. These ores are now the principal source of lead in Tasmania.

In 1973-74 the assayed lead content of Tasmanian mine production was 21 626 tonnes, approximately 5.8 per cent of the corresponding Australian total; N.S.W. and Queensland are the principal producers.

### Tungsten

Tungstic oxide ( $WO_3$ ) occurs in two forms: in scheelite (calcium tungstate) and wolfram (iron manganese tungstate). There is a marked distinction between the mining of scheelite and of wolfram. Whereas scheelite in Tasmania is mined for its  $WO_3$  content, wolfram is usually found in association with tin. Production of wolfram began in 1906 at Moina in the north-west but now comes from mixed tin-wolfram mines in the Avoca area.

Australia's principal domestic producer of tungstic oxide is King Island Scheelite Ltd from its mine at Grassy.

In 1973-74 the assayed tungstic oxide content of Tasmanian mine production was 1 305 tonnes; this was 91.1 per cent of the Australian total.

### Sulphur

There are no known deposits of elemental sulphur in Australia, but its use is of vital importance in the heavy chemical and fertiliser industry, the principal form being as sulphuric acid. The sulphur content of the Mt Lyell and Rosebery ores is used to manufacture this acid.

In May 1970 a \$14m sulphuric acid plant was opened at Burnie as a joint venture by Mt Lyell Mining and Railway Company Ltd and Electrolytic Zinc Company (A/asia) Ltd using pyrites railed from the Mt Lyell and Rosebery mines. Sulphuric acid is also produced as a by-product by the Electrolytic Zinc Company (A/asia) Ltd at its Risdon plant. In 1973-74 the assayed sulphur content of Tasmanian mine production was 164 752 tonnes or 40.2 per cent of the corresponding Australian total. N.S.W. is the principal producing state.

### Iron Oxide and Iron Ores

Tasmania has large deposits of iron ore which until recent years were used mainly for iron oxide in the local manufacture of cement. The principal Tasmanian deposit at Savage River is held on licence by an Australian company, Industrial and Mining Investigations Pty Ltd. Part of the deposit is leased to American interests who have developed the Savage River mining complex described in detail in the 1968 *Year Book*. During 1973-74, the Savage River mine produced 2 304 575 tonnes of dry concentrate with an assayed iron content of 1 599 592 tonnes.

## STATISTICS OF MINERAL PRODUCTION

### Source of Data

Statistics relating to quantities of minerals produced (including assayed metallic content) are, in the main, obtained from the State Mines Department and are supplemented, where necessary, with data obtained from the annual census of mines and quarries conducted by the Australian Bureau of Statistics, and from the Commonwealth Bureau of Mineral Resources.

Other details of the mining industry, such as employment, value of output, and costs of production, etc. are obtained from the annual census of mines and quarries, conducted by the Bureau. This census was first conducted in 1952 and the information obtained from each census was basically the same until 1968. As from 1968-69 the mining sector census was standardised in accordance with the concepts employed in the integrated economic censuses (see the Appendix to chapter 10 for comparison between mining and other industries included in the integrated censuses).

### Metallic Minerals

The table that follows shows the quantity of metallic minerals produced in Tasmania for a five-year period:

Metallic Minerals: Production					
Mineral	1969-70	1970-71	1971-72	1972-73	1973-74
TONNES					
Copper—Concentrate ..	73 096	83 390	88 443	91 514	96 015
Ore .. ..	2 328	(a) ..	(a) ..	(a) ..	(a) ..
Precipitate .. ..	17	(a) ..	(a) ..	(a) ..	(a) ..
Copper-tin concentrate ..	3 708	4 367	5 187	4 586	3 241
Iron—Concentrate .. ..	2 078 062	2 044 584	2 200 630	2 450 932	2 304 575
Oxide .. ..	10 342	10 178	10 875	9 590	12 879
Lead concentrate .. ..	13 086	12 448	21 929	22 837	16 937
Lead-copper concentrate ..	13 518	10 227	18 025	16 605	19 919
Pyrite concentrate .. ..	66 996	132 526	192 402	197 813	238 850
Rutile concentrate .. ..	7 251	7 903	3 330	..	3 237
Tin concentrate .. ..	9 199	10 211	12 458	13 895	12 496
Tungsten concentrates—					
Scheelite concentrate ..	1 397	1 275	1 839	1 788	1 630
Wolfram concentrate ..	788	895	1 351	1 319	1 171
Zinc concentrate .. ..	85 973	68 548	122 804	125 087	127 352
Zircon concentrate .. ..	7 627	4 567	1 754	..	3 072
KILOGRAMS					
Gold (not in concentrates) ..	4	2	..	..	2

(a) Smelting of these items at Mt Lyell has ceased; present operations involve production of copper concentrates (mainly for export).

*Assayed Content*

In the following table, the various concentrates have been grouped to show their content in terms of individual metals. The contents stated are as determined by assay and include all pay metals and metals which are a refiner's prize; totals compiled on this basis contain no allowances for losses in smelting and refining and therefore, in general, exceed the quantities actually recoverable. The table refers exclusively to minerals mined in Tasmania.

**Assayed Contents of Metallic Minerals Produced**

Mineral	1969-70	1970-71	1971-72	1972-73	1973-74
<b>COPPER (TONNES)</b>					
Copper—Concentrate ..	19 091	21 465	22 921	23 449	24 292
Ore .. ..	28	(a) ..	(a) ..	(a) ..	(a) ..
Precipitate .. ..	6	(a) ..	(a) ..	(a) ..	(a) ..
Copper-tin concentrate ..	729	836	977	878	652
Lead concentrate .. ..	97	79	119	78	67
Lead-copper concentrate ..	1 438	1 235	2 133	1 828	2 350
Zinc concentrate .. ..	288	231	447	518	465
Total .. ..	21 677	23 846	26 597	26 751	27 826
<b>GOLD (KILOGRAMS)</b>					
Copper—Concentrate ..	375	405	430	475	470
Ore .. ..	1	(a) ..	(a) ..	(a) ..	(a) ..
Lead concentrate .. ..	93	80	150	91	82
Lead-copper concentrate ..	789	750	1 260	1 038	972
Zinc concentrate .. ..	94	76	143	165	166
Other sources .. ..	4	2	..	..	2
Total .. ..	1 356	1 313	1 983	1 769	1 692
<b>IRON (TONNES)</b>					
Iron concentrate .. ..	1 441 572	1 412 884	1 505 702	1 695 961	1 599 592
<b>LEAD (TONNES)</b>					
Lead concentrate .. ..	7 637	7 256	12 579	13 414	10 920
Lead-copper concentrate ..	4 672	3 018	5 127	5 034	5 138
Zinc concentrate .. ..	2 695	2 220	4 979	4 616	5 568
Zinc-lead ore .. ..	..	22	23	..	..
Total .. ..	15 004	12 516	22 708	23 064	21 626
<b>SILVER (KILOGRAMS)</b>					
Copper—Concentrate ..	3 038	3 587	3 861	3 965	4 418
Ore .. ..	11	(a) ..	(a) ..	(a) ..	(a) ..
Lead concentrate .. ..	10 158	9 820	15 209	16 785	13 272
Lead-copper concentrate ..	33 117	28 824	49 602	49 357	53 034
Zinc concentrate .. ..	8 845	7 079	14 447	16 642	17 194
Zinc-lead ore .. ..	..	53	20	..	..
Total .. ..	55 169	49 363	83 139	86 749	87 918

## Assayed Contents of Metallic Minerals Produced—continued

Mineral	1969-70	1970-71	1971-72	1972-73	1973-74
SULPHUR (TONNES)					
Lead concentrate .. ..	2 536	2 495	4 475	4 565	3 118
Lead-copper concentrate .. ..	3 540	2 845	5 005	4 427	5 673
Pyrite concentrate .. ..	31 785	(b) 62 747	92 838	93 709	114 141
Zinc concentrate .. ..	29 475	22 521	40 343	41 064	41 820
Total .. ..	67 336	90 608	142 661	143 765	164 752
ZINC (TONNES)					
Lead concentrate .. ..	2 425	2 251	4 113	3 776	2 247
Lead-copper concentrate .. ..	1 644	1 278	2 360	2 333	2 657
Zinc concentrate .. ..	47 189	37 138	65 656	66 544	67 057
Zinc-lead ore .. ..	..	27	12	..	..
Total .. ..	51 258	40 694	72 141	72 653	71 961
TIN (TONNES)					
Copper-tin concentrate .. ..	163	174	157	129	81
Tin concentrate .. ..	4 958	5 148	6 312	6 289	5 957
Total .. ..	5 121	5 322	6 469	6 418	6 038
TUNGSTIC OXIDE (WO <sub>3</sub> ) (TONNES)					
Scheelite concentrate .. ..	1 000	895	1 351	1 319	1 171
Wolfram concentrate .. ..	540	653	565	475	134
Total .. ..	1 540	1 548	1 916	1 794	1 305
CADMIUM (TONNES)					
Zinc concentrate .. ..	77	61	114	165	177
MANGANESE (TONNES)					
Zinc concentrate .. ..	263	176	r 389	r 367	423
TITANIUM OXIDE (TONNES)					
Rutile concentrate .. ..	6 849	7 507	3 166	..	3 140
Zircon concentrate .. ..	31	16	8	..	9
Total .. ..	6 880	7 523	3 174	..	3 149
ZIRCON (TONNES)					
Rutile concentrate .. ..	56	55	18	..	26
Zircon concentrate .. ..	7 480	4 500	1 723	..	2 009
Total .. ..	7 536	4 555	1 741	..	2 035

(a) Smelting at Mt Lyell has ceased; present operations involve production of copper concentrate (mainly for export).

(b) Increased concentrate produced in association with sulphuric acid manufacture at Burnie.

**Fuel Minerals (Coal)**

The only fuel mineral mined in Tasmania is coal; details of production are shown for a six-year period.

**Production of Coal in Tasmania  
(Tonnes)**

Description	1969-70	1970-71	1971-72	1972-73	1973-74
Coal, black—					
Semi-anthracite .. ..	1 748	519			
Bituminous .. ..	109 785	124 960	121 302	128 478	122 788
Total .. ..	111 533	125 479	121 302	128 478	122 788

**Non-Metallic (Excluding Fuel) Minerals**

The quarrying of limestone is the earliest recorded activity in the field of non-metallic mineral mining in the State; burnt lime being sought as a base for building mortar. Production of this non-metallic mineral has gradually increased to meet a rising demand in various industrial processes. Large exports of limestone were made in the period 1918-1947, when the B.H.P. Co. Ltd operated quarries at Melrose on the north-west coast.

The next table shows the Tasmanian production of non-metallic minerals for a six-year period:

**Non-Metallic (Excluding Fuel) Minerals Production  
(Tonnes)**

Mineral	1969-70	1970-71	1971-72	1972-73	1973-74
Clays and shales—					
Brick .. ..	137 880	121 731	131 391	128 080	138 770
Other .. ..	63 688	70 530	100 568	90 892	99 492
Dolomite .. ..	3 479	2 298	4 687	3 852	5 450
Limestone (a) .. ..	545 836	518 235	523 660	558 948	658 210
Peat moss .. ..	157	229	308	241	318
Ochre .. ..	42	84	23	74	62
Pebbles .. ..	1 328	1 611	1 712	1 134	1 264
Silica (b) .. ..	45 120	44 206	31 014	25 596	31 644

(a) Excludes quantities used directly as building or road construction materials.

(b) For glass, chemical, etc. manufacturing.

**Construction Materials**

In addition to the types of mining and quarrying previously described there is the quarrying of construction materials (for buildings, roads, etc.) such as crushed and broken stone, gravel and sand. This type of activity also is taken into account when placing a value on the output from mines and quarries, measuring their level of employment, etc.

**CENSUS OF MINING ESTABLISHMENTS**

As related in the previous section of this chapter, annual censuses of mines were conducted by the Bureau from 1952; the last 'old-style' mining census covered the calendar year 1968. For 1968-69 simultaneous integrated economic censuses were undertaken in respect of mining and four other sectors (manufactur-



ing; wholesale trade; retail trade; and electricity and gas production and distribution). In the Appendix to chapter 10, the results of these censuses are presented so that the economic significance of mining can be compared with that of other sectors included in the censuses.

The reasons for changing to new concepts, new definitions, etc. are set out in Appendix A in the 1972 *Year Book*. Statistics derived from the 'old-style' mining census for 1968 and earlier years may be found in chapter 8 of the 1973 *Year Book*. Definitions of concepts and terms used are given in Appendix B of this *Year Book*.

### Mining Establishments—Summary of Operations

The tables that follow give results for the mining censuses from 1969-70 to 1973-74.

#### Census of Mining Establishments Summary of Operations by Industry Sub-division

Particulars	Unit	1969-70	1970-71	1971-72	1972-73	1973-74 <i>p</i>
METALLIC MINERALS						
Establishments .. ..	no.	41	29	(a) 17	16	16
Persons employed (b)—						
Males .. ..	no.	3 851	4 194	4 165	3 913	3 852
Females .. ..	no.	164	189	186	174	172
Total .. ..	no.	4 015	4 383	4 351	4 087	4 024
Wages and salaries .. ..	\$'000	17 526	21 661	r 25 370	26 955	29 179
Turnover .. ..	\$'000	80 303	74 280	84 567	90 605	138 417
Stocks—						
Opening .. ..	\$'000	8 734	10 805	13 515	13 941	12 541
Closing .. ..	\$'000	11 160	12 241	14 046	12 511	15 122
Purchases, etc (c) .. ..	\$'000	19 126	19 853	28 035	29 622	59 099
Value added .. ..	\$'000	63 604	55 863	57 063	59 553	81 899
Rent, leasing expenses .. ..	\$'000	84	66	53	86	151
Fixed capital expenditure (d) .. ..	\$'000	20 090	25 746	15 899	12 107	12 383
COAL (e)						
Establishments .. ..	no.	3	2	2	1	1
CONSTRUCTION MATERIALS						
Establishments .. ..	no.	26	19	24	21	29
Persons employed (b)—						
Males .. ..	no.	165	146	167	142	181
Females .. ..	no.	3	2	3	2	4
Total .. ..	no.	168	148	170	144	185
Wages and salaries .. ..	\$'000	547	490	634	647	892
Turnover .. ..	\$'000	2 776	2 510	2 856	3 407	4 972
Stocks—						
Opening .. ..	\$'000	261	214	223	342	360
Closing .. ..	\$'000	258	195	293	355	378
Purchases, etc (c) .. ..	\$'000	1 289	1 111	1 449	1 681	2 566
Value added .. ..	\$'000	1 483	1 379	1 478	1 740	2 424
Rent, leasing expenses .. ..	\$'000	2	4	52	39	47
Fixed capital expenditure (d) .. ..	\$'000	362	144	378	170	666
OTHER NON-METALLIC MINERALS (e)						
Establishments .. ..	no.	8	9	10	10	10

**Census of Mining Establishments**  
**Summary of Operations by Industry Sub-division—continued**

Particulars	Unit	1969-70	1970-71	1971-72	1972-73	1973-74 <i>p</i>
<b>TOTAL MINING</b>						
Establishments .. ..	no.	78	59	53	48	56
Persons employed ( <i>b</i> )—						
Males .. ..	no.	4 139	4 463	4 449	4 150	4 139
Females .. ..	no.	173	197	191	176	178
Total .. ..	no.	4 312	4 660	4 640	4 326	4 317
Wages and salaries .. ..	\$'000	18 544	22 641	26 458	28 091	30 623
Turnover .. ..	\$'000	84 141	78 057	88 675	95 350	144 917
Stocks—						
Opening .. ..	\$'000	9 018	11 058	13 801	14 332	12 966
Closing .. ..	\$'000	11 464	12 505	14 391	12 933	15 570
Purchases, etc ( <i>c</i> ) .. ..	\$'000	20 796	21 408	29 948	31 765	62 200
Value added .. ..	\$'000	65 791	58 096	59 317	62 186	85 321
Rent, leasing expenses .. ..	\$'000	92	110	116	151	235
Fixed capital expenditure ( <i>d</i> ) .. ..	\$'000	20 597	25 967	16 532	12 482	13 159

(a) From 1971-72 small tin producing establishments with value of sales less than \$20 000 have been excluded from the Census.

(b) At last pay-period in June; includes working proprietors.

(c) Purchases, transfers in and selected expenses.

(d) Outlay on fixed tangible assets less disposals.

(e) Other data not available for separate publication but included in 'Total Mining'.

### Smelting and Refining of Metals

The turnover for a mining establishment includes the selling value of products produced at the establishment (e.g. in a metal mining establishment usually the selling value of specific concentrates at the mine). Earlier, reference was made to the fact that Tasmanian manufacturing industry statistics include the extraction and refining of metals, not only from locally produced ores and concentrates, but also from those that have been imported.

The next table shows details of establishments engaged in making iron ore pellets; extracting and refining copper, zinc and aluminium; and making ferro-manganese alloys. In terms of numbers employed and of 'value added', it will be seen that this manufacturing activity is almost as important as mining activity.

#### Non-Mining Activity: Extracting and Refining Metals

Particulars	Unit	1969-70	1970-71( <i>a</i> )	1971-72	1972-73	1973-74
Establishments .. ..	no.	4	<i>n.a.</i>	4	5	5
Persons employed ( <i>b</i> ) .. ..	no.	3 730	<i>n.a.</i>	3 519	3 508	3 485
Turnover .. ..	\$'000	132 656	<i>n.a.</i>	130 836	143 726	176 227
Value added .. ..	\$'000	54 688	<i>n.a.</i>	46 323	48 966	65 912

(a) There was no manufacturing census in 1970-71.

(b) Average over whole year, includes working proprietors.

In the previous table, the principal metals and concentrates included are iron ore pellets (from local ore), ferro-manganese alloy (from imported ores), zinc and cadmium (from local and imported ores), alumina and aluminium (from imported bauxite). The codes for the Australian Standard Industrial Classification (ASIC) classes of establishments included in the table are: 2 911; 2 912; 2 921; 2 922; 2 923 and 2 924.

The value added in the manufacturing table does not duplicate values already recorded in the mining sector since the cost of basic raw materials (ores or concentrates) is one of the recorded costs (purchases and selected expenses) of manufacture deducted from the value of turnover.

The next table gives details of the production of zinc and copper by refinery processes:

**Non-Mining Activity: Production of Zinc and Copper  
(Tonnes)**

Year			Refined zinc	Copper (a)	Year			Refined zinc	Copper (a)
1966-67	..	..	146 227	14 862	1970-71	..	..	162 271	..
1967-68	..	..	131 872	14 288	1971-72	..	..	175 798	..
1968-69	..	..	151 094	14 623	1972-73	..	..	193 782	..
1969-70	..	..	170 931	6 026	1973-74	..	..	182 749	..

(a) Blister copper. In October 1965, the Mt Lyell refinery was closed down and the blister copper was thereafter shipped to Port Kembla (N.S.W.) for refining. In December 1969, the Mt Lyell copper smelters closed down.

### *Aluminium Production*

The refinery for the production of alumina and refined aluminium is situated at Bell Bay on the River Tamar. Production of alumina commenced in February 1955, and of refined aluminium in September 1955. Published statements indicate that the capacity of the plant, in terms of primary aluminium, has been lifted steadily in recent years. The commissioning in 1971 of a third potline brought annual capacity to 95 500 tonnes, nearly eight times the plant's productive capacity in 1961.

## **MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)**

The statistics in the following tables relating to exploration for minerals other than petroleum are derived from the annual census of mineral exploration.

'Mineral exploration' consists of the search for mineral deposits, the appraisal of newly-found deposits, and the further appraisal of known deposits (including those being worked) by geological, geophysical, geochemical and other methods (including drilling). Exploration for water is excluded. The construction of shafts and adits is included if primarily for exploration purposes.

The data obtained in the mineral exploration census are divided into the following categories:

*Exploration on Production Leases:* Relates to exploration carried out on the production lease currently producing or under development for production of minerals other than petroleum. Mines included in this section of the mineral exploration census correspond closely to those in the annual census of mining and quarrying with the exception of a limited number of itinerant prospectors and small mines excluded from the collection.

*Exploration on Other Areas:* Relates to (i) Exploration carried out on areas covered by exploration licences issued by the Department of Mines for minerals other than petroleum; and (ii) Exploration by private enterprise for minerals which is not directly connected with areas under lease or licence, including general surveys, aerial surveys, report writing, map preparation and other off-site activities not directly attributable to particular lease or licence areas.

**Mineral Exploration Other Than for Petroleum: Expenditure  
(\$'000)**

Year	Wages and salaries paid	Stores, materials, fuels, etc. purchased	Payments to contractors (a)	Other current expenditure (b)	Net capital expenditure (c)	Total
<b>PRIVATE EXPLORATION ON PRODUCTION LEASES</b>						
1971-72 ..	315	125	63	77	18	597
1972-73 ..	404	116	408	n.p.	n.p.	1 077
1973-74 ..	461	168	452	95	24	1 200
<b>OTHER PRIVATE EXPLORATION</b>						
1971-72 ..	579	152	1 481	626	43	2 881
1972-73 ..	556	101	1 105	n.p.	n.p.	2 314
1973-74 ..	899	317	1 180	548	49	2 994
<b>TOTAL PRIVATE EXPLORATION</b>						
1971-72 ..	893	277	1 544	703	61	3 478
1972-73 ..	960	217	1 512	674	29	3 392
1973-74 ..	1 360	485	1 632	643	74	4 194
<b>TOTAL GOVERNMENT EXPLORATION (d)</b>						
1971-72 ..	301	..	..	23	..	324
1972-73 ..	368	..	..	34	..	401
1973-74 ..	197	17	3	28	2	246
<b>TOTAL PRIVATE AND GOVERNMENT</b>						
1971-72 ..	1 194	277	1 544	726	61	3 802
1972-73 ..	1 328	217	1 512	708	29	3 793
1973-74 ..	1 557	502	1 635	671	76	4 440

(a) Amounts paid to contractors, geological consultants, etc., employed to carry out exploration activities.

(b) Other current exploration expenditure such as maintenance expenses, map preparation, aerial surveys, rent and fees paid to governments for mineral tenements.

(c) Net capital expenditure in 1973-74 is defined as expenditure on fixed tangible assets less disposals. In previous years, capital expenditure was defined as expenditure on fixed tangible assets.

(d) Exploration by Tasmanian Department of Mines.

**Mineral Exploration Other Than for Petroleum: Metres Drilled, Sunk or Driven**

Year	Drilling		
	Core (a)	Non-core (b)	Total
<b>PRIVATE EXPLORATION ON PRODUCTION LEASES</b>			
1971-72 .. ..	14 697	1 422	16 119
1972-73 .. ..	32 331	839	33 170
1973-74 .. ..	38 087	27 543	65 630

*Forestry, Mining and Fisheries***Mineral Exploration Other Than for Petroleum:  
Metres Drilled, Sunk or Driven—*continued***

Year	Drilling		
	Core (a)	Non-core (b)	Total
<b>OTHER PRIVATE EXPLORATION</b>			
1971-72 .. ..	32 308	11 799	44 107
1972-73 .. ..	14 245	12 231	26 476
1973-74 .. ..	20 848	9 785	30 633
<b>TOTAL PRIVATE EXPLORATION</b>			
1971-72 .. ..	47 005	13 221	60 226
1972-73 .. ..	46 576	13 070	59 646
1973-74 .. ..	58 935	37 328	96 263
<b>TOTAL GOVERNMENT EXPLORATION (c)</b>			
1971-72 .. ..	1 269	..	1 269
1972-73 .. ..	1 456	..	1 456
1973-74 .. ..	1 519	..	1 519
<b>TOTAL PRIVATE AND GOVERNMENT EXPLORATION</b>			
1971-72 .. ..	48 274	13 221	61 495
1972-73 .. ..	48 032	13 070	61 102
1973-74 .. ..	60 454	37 328	97 782

(a) Diamond drilling, or any kind of drilling in which cores are taken.

(b) Alluvial, percussion and other drilling in which cores are not taken.

(c) Exploration by Tasmanian Department of Mines.

**FISHERIES****General**

The Tasmanian fishery involves about 1 350 licensed fishermen who operate from 616 vessels. The species which comprise the annual catch are not only scale fish but also include elasmobranchs (sharks), molluscs (scallops, oysters, abalone) and crustaceans (southern rock lobster).

In 1973-74 the catch of fish, molluscs and crustaceans totalled approximately 14 828 tonnes. This figure is more than double the 1972-73 figure when a total of only 6 836 tonnes was harvested. The establishment of a fish protein factory at Triabunna was responsible, to a large extent, for the significant increase in production.

The Sea Fisheries Division controls saltwater fisheries and the Inland Fisheries Commission controls the freshwater fisheries. Most freshwater fish are caught for sport but two species (eels and whitebait) are caught for sale.

Commercial fishing for whitebait began in 1941 and reached a peak in 1947 when over 450 tonnes were caught. The canning of whitebait ceased in the early 1950's and the annual catch has declined to 2 800 kilograms caught in 1973-74.

Rainbow trout are raised commercially on a trout farm at Bridport. There are rainbow and brown trout in Tasmanian lakes and rivers (introduced as exotic species) but these may only be fished for by licensed sportsmen and may not be sold.

A commercial freshwater fishery for the short-finned eel was established in 1965 and the catch in 1973-74 was 14 000 kilograms.

### Fish Varieties and Species

The following table lists the main Tasmanian commercial fish varieties and species with their code numbers. The code numbers are prepared on behalf of the Australian/State Fisheries Conference by the Fisheries Division of the Department of Agriculture.

Main Commercial Fish Varieties, Species and Code Numbers

Variety	Species	Code number	Variety	Species	Code number
Eels .. ..	<i>Anguilla australis</i>	035 076 101 151 176	Flathead .. ..	<i>Neoplatycephalus fuscus</i>	615 616 617 621
Whitebait .. ..	<i>Lovettia sealii</i>			<i>N. richardsoni</i>	
Rainbow trout .. ..	<i>Salmo gairdnerii</i>			<i>N. speculator</i>	
Flounder .. ..	<i>Rhombosolea spp</i>			<i>Trudis bassensis</i>	
	<i>Pseudo hombus spp</i>			<i>Leviprora laevigata</i>	625
Cod .. ..	<i>Physiculus barbatus</i>	201 301 303 315 334 335	Shark .. ..	<i>Mustelus antarcticus</i>	
Tuna.. ..	<i>Thunnus maccoyii</i>			<i>Galeorhinus australis</i>	
	<i>T. alalunga</i>			<i>Hemirhamphus melanochir</i>	
	<i>Katsuwonus pelamis</i>				
Mackerel .. ..	<i>Auxis thazard</i>	334 335	Southern rock lobster .. ..	<i>Jasus novae-hollandiae</i>	780 831 832
Snoek (barracouta)	<i>Leionura atun</i>			<i>Ostrea angasi</i>	
				<i>Crassostrea gigas</i>	
				<i>Pecten meridionalis</i>	
Mullet .. ..	<i>Mugil cephalus</i>	351 370 401 490 535 536	Oyster .. ..	<i>Equichlamys bifrons</i>	
	<i>Aldrichetta forsteri</i>			<i>Mimachlamys asperimus</i>	
	<i>Usacaranx nobilis</i>			<i>Notobaliotis ruber</i>	
Trevally .. ..	<i>Arripis trutta</i>			<i>Schismotis laevigata</i>	
Salmon .. ..	<i>Latris lineatus</i>	535 536	Scallop .. ..		
Trumpeter .. ..	<i>Latridopsis forsteri</i>			<i>Abalone .. ..</i>	

### Fisheries Statistics

#### Source of Data and Method of Presentation

Statistics presented in this section have been supplied principally by the Sea Fisheries Division of the State Department of Agriculture. In the preparation of fisheries production statistics, the quantities are generally in terms of the form in which the catch is taken from the water. For example, the statistics of fish production are in terms of 'estimated live weight' which is calculated from landed weights by using conversion factors for the various species. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise-reduced condition. Crustaceans are reported on a 'whole weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis.

The actual edible yield varies depending on types of fish and methods of preparation. Barracouta yield about 51 per cent of liveweight when filleted, and shark about 60 per cent when headed and gutted. The edible flesh in molluscs represents only a small portion of the in-shell weight. Approximately 1 kg of scallop flesh equals 4.5 kg in-shell weight and 1 kg of abalone flesh equals 2.25 kg in-shell weight.

The catch is generally defined as that landed in Tasmanian ports, regardless of whether it is caught in Tasmanian waters or not, or whether it is caught by Tasmanian fishermen or not. A quantity of shark and southern rock lobster taken by Victorian based fishermen in Tasmanian waters, but landed in Victoria, is included in the Victorian catch and excluded from Tasmanian figures, on the basis that the catch influences the Victorian rather than the Tasmanian economy.

Details of production refer only to recorded commercial production. In view of the importance of amateur fishermen in certain types of fishing, details shown cannot be taken as representing the whole catch. In addition, it is likely that the figures shown understate, to some extent, the full commercial catch since no information is available on fish taken for sale by persons not licensed as professional fishermen.

### **Persons Engaged in Fisheries**

In the following table, which gives details collected in the population censuses of 1966 and 1971 (at 30 June), the numbers of persons whose industry was classified to 'fishing and whaling' are shown and compared with the numbers engaged in all primary industries and in the total labour force. The comparison shows that fishing is a relatively more important industry in Tasmania than for Australia.

**Australia and Tasmania: Persons Engaged in Fisheries**  
**Population Censuses, 1966 and 1971**

Particulars	Australia		Tasmania	
	1966	1971	1966	1971
Persons engaged in—				
Fishing and whaling .. .. '000	8.0	8.0	0.6	0.6
All primary industries .. .. '000	456.7	465.6	17.2	18.4
Total labour force .. .. '000	4 856.4	5 221.5	147.3	150.2
Persons engaged in fishing and whaling as a proportion of—				
All primary industries .. per cent	1.8	1.7	3.4	3.0
Total labour force .. per cent	0.2	0.2	0.4	0.4

### **Employment and Boats**

#### *Persons Engaged and Boats*

The following table shows details of persons and boats employed in the taking of fish, crustaceans and edible molluscs. The data are derived from boat registration records of the State Sea Fisheries Division. The term 'number of crew' refers to the usual number of crew on registered fishing vessels and lacks the precision of the concept 'average number employed' used in statistics of other production sectors. Many of the fishermen operate part-time only, and may normally follow other occupations:



## Fisheries: Number and Value of Boats, Number of Crew, etc.

Particulars	1971 (a)	1972 (a)	1973 (a)	1974 (b)
Number of boats engaged (c) .. ..	588	589	594	616
Value of boats engaged (c) .. .. \$'000	6 980	7 478	8 611	12 846
Average value per boat .. .. \$	11 870	12 696	14 497	20 854
Number of tender boats .. ..	337	341	345	400
Total value of fishing gear .. .. \$'000	598	628	728	1 291
Value of fishing gear per boat .. .. \$	1 018	1 067	1 226	2 095
Number of crew .. ..	1 207	1 235	1 268	1 343
Number of boats according to size (d)—				
Under 6 metres .. ..	108	120	127	147
6 and under 9 metres .. ..	109	92	82	88
9 and under 12 metres .. ..	138	132	129	116
12 and under 15 metres .. ..	152	152	151	157
15 and under 18 metres .. ..	60	69	77	77
18 and under 21 metres .. ..	13	15	15	15
21 and under 26 metres .. ..	3	5	9	8
26 and under 30 metres .. ..	3	2	1	4
30 metres and over .. ..	2	2	3	4

(a) Based on figures collected in 1969 adjusted for new registrations and de-registrations.

(b) Complete details collected.

(c) Excludes tender boats

(d) Size groupings, originally in feet, have been directly converted to the nearest metre.

The boats used for the estuarine fisheries are mostly small vessels, propelled by diesel or petrol motors of low power. The offshore vessels range in length from 9 metres to over 30 metres and almost invariably are powered by diesel engines. Refrigeration of the catch at sea is becoming more common, the four main types being ice box, ice cooling, brine tanks and dry refrigeration; almost all boats have wells or deck tanks which serve to keep the catch alive, e.g. southern rock lobster or abalone.

The next table indicates the high proportion of relatively new boats operating in the fishing industry and analyses the 616 boats registered in 1974 according to age:

## Number of Boats Classified According to Length and Age, 1974 (a)

Length of boat (metres) (a)	When constructed							
	Before 1930	1930 to 1939	1940 to 1949	1950 to 1954	1955 to 1959	1960 to 1964	1965 to 1969	1970 to 1974
Under 6 .. ..	..	1	2	3	4	4	33	100
6 and under 9 .. ..	1	3	16	17	8	11	12	20
9 and under 12 .. ..	8	7	19	14	15	23	19	11
12 and under 15 .. ..	17	4	21	8	12	14	53	28
15 and under 18 .. ..	4	4	10	2	6	12	19	20
18 and under 21 .. ..	..	2	2	..	1	2	4	4
21 and under 26 .. ..	2	..	1	..	..	1	1	3
26 and over .. ..	1	..	3	..	..	..	..	4
Total .. ..	33	21	74	44	46	67	141	190

(a) Size groupings, originally in feet, have been directly converted to the nearest metre.

## Production

*Fish Catch*

The following table shows the production of certain types of fish caught in Tasmania for a five-year period. The fish types appear in the table without any further description to identify the particular species but a specification of the more common types appears as an introduction to this section.

**Fish: Production by Type**  
(\*000 kg Estimated Live Weight) (a)

Type	1969-70	1970-71	1971-72	1972-73	1973-74
Mullet .. .. .	14	10	11	7	7
Shark .. .. .	802	793	859	497	1 187
Australian salmon .. .. .	67	201	508	461	371
Flathead .. .. .	11	69	63	39	73
Barracouta (snoek) .. .. .	1 579	610	581	915	598
Whitebait .. .. .	45	15	5	1	3
Cod .. .. .	10	6	4	4	2
Flounder .. .. .	18	19	30	14	10
Trevally .. .. .	10	14	38	63	41
Trumpeter .. .. .	19	21	15	7	7
Garfish .. .. .	23	27	34	36	50
Other .. .. .	69	154	233	221	(b) 7 535
Total .. .. .	2 666	1 940	2 380	2 265	(b) 9 884

(a) Estimated live weights are calculated from landed weights by conversion factors since quantities of fish are reported frequently in a gutted, headed and gutted, or otherwise reduced condition (e.g. barracouta and shark).

(b) See the sub-section 'General' at the beginning of the Fisheries Section.

*Crustaceans and Molluscs*

In terms of value, the most important item in the Tasmanian catch is southern rock lobster (crayfish) and the next table shows details of production of this crustacean and also of molluscs:

**Crustaceans and Molluscs: Production by Type**

Type	1969-70	1970-71	1971-72	1972-73	1973-74
CRUSTACEANS (*000 kg WHOLE WEIGHT)					
Southern rock lobster ..	1 390	1 607	1 469	1 583	1 514
MOLLUSCS (*000 kg IN-SHELL WEIGHT)					
Squid .. .. .	..	3	8	154	5
Oysters .. .. .	31	32	53	147	207
Scallops .. .. .	50	..	52	515	1 158
Abalone .. .. .	2 608	3 488	2 971	2 172	2 060
Total .. .. .	2 690	3 523	3 084	2 988	3 430

Development of the Tasmanian abalone fishery dates from 1964 when divers commenced taking abalone for export. The 1963-64 catch was only 33 000 kg. In 1973-74 the catch was 2 060 000 kg which was over 1.4m kg below the record 1970-71 abalone harvest of 3 488 000 kg. Currently, in terms of value, abalone is the second most important species in the Tasmanian catch.

### Comparison with Other States

**Rock Lobster:** Total production of rock lobster in Australia during 1973-74 was 11.7 million kilograms of which Tasmania produced 13 per cent. The main producing states were Western Australia (58 per cent) and South Australia (23 per cent).

**Abalone:** The Tasmanian abalone fishery in 1973-74 accounted for 34 per cent of Australian production of 6 032 000 kg (in the shell). Victoria was the leading producer with 35 per cent of the total Australian catch.

**Scallops:** For many years Tasmania was the only state in Australia with a commercial scallop fishery; in 1955-56 Tasmania was joined by Queensland, but continued to retain its dominant position in the industry. In 1963, however, Tasmanian fishermen started a Victorian fishery in beds known to exist in Port Phillip Bay and the new site in its first year (1963-64) produced more than twice the quantity of the Tasmanian fishery. No scallops were dredged from Tasmanian waters in 1970-71, and only 52 000 kg in 1971-72, but following the discovery of new beds in Bass Strait the Tasmanian catch increased to 1 158 000 kg in 1973-74. Victoria produced 7 110 000 kg of scallops in 1973-74 which was 57 per cent of the Australian total of 12 425 000 kg, while Queensland contributed 27 per cent.

### Catch of Abalone and Lobster Landed at Fishing Ports

The table that follows shows the proportion of abalone and southern rock lobster landed at Tasmanian fishing ports. The information relates to port of landing only, and not to the area in which the catch was made.

Proportion of Abalone and Southern Rock Lobster Landed at Each Port, 1973-74  
(Per Cent)

Port	Abalone	Southern rock lobster	Port	Abalone	Southern rock lobster
Derwent & Channel—			Bass Strait & islands—		
Dover .. ..	10.3	7.7	Bridport .. ..	2.4	4.0
Gordon .. ..	..	..	Currie .. ..	6.0	2.2
Hobart .. ..	17.6	9.9	Lady Barron ..	3.3	7.7
Kettering .. ..	..	4.0	Port Sorell .. ..	..	1.3
Margate .. ..	10.6	7.9	Smithton .. ..	8.0	4.7
Southport .. ..	13.1	1.7	Stanley .. ..	1.1	6.6
Woodbridge .. ..	..	..	'Tamar' (a) .. ..	1.3	0.5
			Wynyard .. ..	..	..
Total .. ..	51.6	31.2	Total .. ..	22.1	27.0
East Coast and Peninsula—			West Coast—		
Bicheno .. ..	5.9	5.8			
Coles Bay .. ..	..	0.1	Strahan .. ..	5.0	8.3
St Helens .. ..	9.4	13.7			
Triabunna .. ..	0.2	8.2			
Dunalley .. ..	3.7	2.9			
Port Arthur .. ..	2.1	2.8			
Total .. ..	21.3	33.5	Total Tasmania	100.0	100.0

(a) Launceston, Beauty Point and other Tamar ports.

The next table shows the proportion of the total abalone and southern rock lobster catch landed each month:

**Proportion of Abalone and Southern Rock Lobster Landed in Each Month During 1973  
(Per Cent)**

Month	Abalone	Southern rock lobster	Month	Abalone	Southern rock lobster
January .. ..	8.9	16.5	July .. ..	10.9	5.8
February .. ..	9.9	10.5	August .. ..	9.2	3.1
March .. ..	7.6	8.9	September .. ..	7.0	(a) 0.7
April .. ..	8.2	1.6	October .. ..	11.1	(a) 0.3
May .. ..	6.2	0.5	November .. ..	8.5	29.3
June .. ..	5.9	1.7	December .. ..	6.6	21.1

(a) Closed season in most waters during these months.

**Value of Production—Fishing**

The table that follows gives details of gross and local values of edible fishery products. (For definitions see later section 'Value of Production'.)

**Fisheries: Gross and Local Value of Production  
(\$'000)**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Gross value of production—					
Fish (a) .. ..	648	641	767	658	1 401
Crustaceans (b) .. ..	2 437	3 507	3 794	3 651	3 781
Molluscs .. ..	958	1 836	2 248	2 268	2 737
Total .. ..	4 043	5 984	6 808	6 577	7 919
Less Marketing costs ..	700	868	879	838	905
Local value of production ..	3 343	5 116	5 929	5 739	7 013

(a) Includes value of seaweed harvested for production of alginate.

(b) Southern rock lobster prior to 1970-71; includes crabs from 1970-71.

**Fish and Seafood Processing**

In an island state where employment opportunities are fewer than in the industrialised mainland states, interest has always been shown in the extent of secondary processing carried out on the local catch. The summary below has been made possible by combining data collected annually from fish preserving factories, with information derived from a special return sent to those marketing establishments which clean, fillet, freeze, or package fish and other seafoods. Establishments predominantly engaged in retailing have not been included.

**Summary of Operations for Fish and Seafood Processing Establishments**

Year ended June	Employment at 30 June			Wages and salaries	Turn-over	Opening stock	Closing stock	Purchases and selected expenses	Value added	Fixed capital expenditure
	Males	Females	Persons							
	no.	no.	no.	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1973	126	160	286	748	8 043	727	815	7 205	926	113
1974	139	155	294	920	9 002	829	832	7 404	1 601	82

*Marketing*

In general terms, it can be said that production of fish, crustaceans and molluscs from the Tasmanian fisheries far exceeds the demand generated by the relatively small State population; it follows, therefore, that the industry is largely dependent on its ability to find export markets, both interstate and overseas, and this raises the problem of preserving a perishable product. In the past, shark and snoek (barracouta) when caught in large quantities, were sold to orchardists as manure simply because there was no other way of disposing of the surplus. Cold storage facilities are now generally available and, in addition, canneries offer an alternative method of preservation, the principal cannery being located at Margate in the south. From 1970-71, the catch of snoek has fallen dramatically compared to earlier years and has been well below demand. The problem of preservation has three aspects: (i) at sea; (ii) on shore; and (iii) in transit to market. Of the 616 registered fishing boats in 1974, 201 boats (i.e. 33 per cent) had refrigeration plants of various kinds. In addition, some catches, e.g. southern rock lobster, can be kept alive in boat wells. Cold storage facilities ashore serve to hold the catch before its despatch to interstate and overseas markets while actual exports are carried by air, by refrigerated trailer on the roll-on roll-off ferries and in the refrigeration chambers of conventional ships. The fact that Tasmania has an exportable surplus, yet nevertheless imports some fishery products, is chiefly due to differences in type; the imported varieties include canned sardines, anchovies, oysters, crabs, etc. together with frozen, salted or smoked varieties mainly of European, New Zealand, Canadian or South African origin.

**Fishery Products: Value of Exports and Imports**  
(*\$'000*)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
EXPORTS					
Fish (a)—Overseas .. ..	13	7	11	27	64
Interstate .. ..	481	437	452	482	660
Southern rock lobster—					
Overseas .. ..	1 071	1 108	1 146	439	863
Interstate .. ..	1 048	966	1 298	1 923	2 988
Molluscs—Overseas .. ..	751	1 061	1 680	1 117	1 780
Interstate .. ..	197	314	193	349	849
All types—Overseas .. ..	1 835	2 176	2 837	1 583	2 707
Interstate .. ..	1 726	1 716	1 943	2 753	4 497
Total .. ..	3 561	3 892	4 780	4 336	7 204
IMPORTS					
Fish—					
Fresh and frozen—					
Overseas .. ..	140	187	58	60	65
Interstate .. ..	78	67	155	172	130
Preserved in tins—					
Overseas .. ..	125	133	86	99	247
Interstate .. ..	36	67	105	142	225
Other (b)—Overseas .. ..	10	34	2	..	1
Interstate .. ..	2	4	29	28	31
All types—Overseas .. ..	276	354	146	160	313
Interstate .. ..	116	137	289	342	386
Total .. ..	392	491	435	502	699

(a) Includes fresh and frozen fish and fish preserved in tins.

(b) Includes smoked, salted and potted fish, extracts and caviar.

## Fisheries Division

(Department of Agriculture)

*Administration*

The Division of Fisheries comes under the responsibility of the Minister for Agriculture and Fisheries. For purposes of administration the Division is under the control of the Director of Agriculture.

Under the *Fisheries Act* 1959, provision is made for a Sea Fisheries Advisory Board to advise the Minister on fisheries except in respect of salmon-trout, eels and whitebait which come under the control of the Inland Fisheries Commission. The Board consists of nine members appointed by the Governor as follows: the Director of Agriculture (or his representative); the Commissioner of Police (or his representative); a representative of societies interested in the science of zoology; two representatives of processors; and four representatives of professional fishermen.

*Fisheries Control*

Patrol and inspection duties are carried out by Division officers throughout the State. As well as Tasmanian fisheries, certain Australian waters and the Tasmanian section of the continental shelf are patrolled in addition to the enforcement of the provisions of the Australia-Japan Fishing Agreement; regular inspections are made of Japanese fishing vessels when they enter the port of Hobart. For fisheries control and patrol purposes the Division has five high powered patrol vessels plus the *Challenger* (21.18 metres), a long-range patrol-research vessel. The Division also owns conventional vehicles and four four-wheel drive vehicles. The latter are used for checking remote areas and towing the larger patrol vessels. Frequent use of light aircraft was continued during 1973-74 to assist in patrol duties and resulted in the detection of several serious breaches of fishery regulations.

During 1973-74, 93 cases relating to breaches of fishery regulations went before the courts and resulted in total fines of \$12 606. The number of offences detected among amateur fishermen was considerably lower than in the previous year.

*Research*

Fisheries monitoring plays an important role in the Division's research. Analysis of catch and effort data together with measurement of the size of animals in the catch (market measuring) provides up to date information for assessment of closely managed fisheries such as rock lobster and abalone.

These investigations are supported by population dynamics projects aimed to determine growth, age, movements and mortality rates. Tagging work at present underway with rock lobster and planned for abalone is basic to this work. Similar studies not utilising tagging are in progress with jack mackerel.

Fisheries development projects are underway in the Shark Fisherman Rehabilitation Scheme (squid fishing, otter trawling, pair boat trawling, tuna mesh netting) and also with investigation into the commercial potential of sea urchin.

Aquaculture research presently centres on hatchery studies of scallops and oysters with other projects involving investigation of farming techniques for mussels and oyster cultivation.

Pollution and marine chemistry research has evolved from environmental surveys to more intensive investigation of particular fisheries problems. Most work concerns an understanding of the distribution of heavy metals in a large estuary and in its fauna.

## Appendix

### VALUE OF PRODUCTION, PRIMARY INDUSTRIES

#### Introduction

The value of production for Tasmania and the other Australian states was computed in accordance with the decisions reached at the Conferences of Australian Statisticians, and principally at the Conference held in 1935. The values shown in the tables that follow refer only to the production of primary industries and exclude certain agricultural and farmyard operations on 'rural holdings' of less than one hectare (one acre for 1972-73 and earlier) unless such operations are of an intensive nature (e.g. nurseries).

#### New Value Concepts

The value series allowing direct comparison of primary and secondary industries ends at 1967-68. From 1968-69 new value concepts were introduced in the mining and manufacturing sectors. The new value concepts, while analogous to those described in the following section, are nevertheless sufficiently different to prevent direct comparisons being made for years later than 1967-68. However, in a special appendix (Integrated Economic Censuses) to chapter 10, series will be found which combine and compare value data for mining, manufacturing, wholesale and retail establishments.

#### Primary Industries

The following primary industries are those for which data are separately compiled in the value of production tables:

<i>Primary, Agriculture</i>	<i>Primary, Other</i>
Crops	Hunting
Pastoral	Forestry
Dairying	Fishing
Poultry	
Bee-farming	

In respect of these primary industries, the following uniform definitions are employed:

- (i) *Gross Value of Production* is the value placed on recorded production at the wholesale prices realised at the principal markets. In cases where primary products are consumed at the place of production, or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets. Subsidies and bounties paid by the State and Australian Governments to primary industries are, in general, included in gross value of production.
- (ii) *Local Value* (i.e. recorded production valued at the place of production) is ascertained by deducting marketing costs from the gross value. Marketing costs include freight, cost of containers, commission and other charges incidental thereto.
- (iii) *Net Value of Production* represents local value less value of materials used in the process of production. Materials used in the process of production include seed, power, petrol and oils, feed consumed by farm stock, manures, dips, sprays and other costs of a similar nature. No deductions from local values have been made for depreciation, certain maintenance charges, wages, interest, or some other costs normally incurred.



### Comparing or Combining Industries

In comparing or combining production values for any of the previous industries it is logically necessary to use only *net value of production* (primary); both *gross* and *local* values will be found unsatisfactory because some degree of duplication will be involved. An example of duplication involving *gross* values is when hay from the *crops* sector becomes a 'raw material' for the *pastoral* and *dairying* sectors.

In the following sections, *gross* and *local* values are shown for the various primary industries; the basic reason for publication is not to facilitate comparison and combination of these values for individual industries, or groups of industries, but rather to show how *net value of production* is computed.

In accordance with the previous definitions, net value of production for primary industries is computed by deducting the cost of materials used in the process of production from the local value. Details of such costs are not available for: (i) bee-farming; (ii) hunting; (iii) forestry; and (iv) fishing. In the case of these industries, only local value can be computed.

### Sources of Information—Value of Production

#### *Primary Production, Agriculture*

The data used are those concerning quantity of primary production (supplied principally by farmers, etc.) together with information collected from various sources on prices realised in the principal markets for different products, the costs of marketing these products and the costs of certain materials used in their production. Price and cost data are obtained from statutory authorities (e.g. Dairy Produce Equalisation Committee), market reports, special returns collected from wholesalers, brokers, auctioneers, etc., and from overseas and interstate trade statistics.

#### *Primary Production, Other*

(i) *Hunting*: Principal data are derived from export of skins and information on the annual mutton bird catch.

(ii) *Forestry*: Principal value data are available from the annual factory census, since forestry products are the basic raw material for sawmills, newsprint and paper mills, etc.

(iii) *Fishing*: Quantity data are supplied by fishermen and prices are collected from fish wholesalers and agents.

#### *Period Covered*

*Primary, Agriculture*: Generally the year ended 30 June but includes current season's production harvested after 30 June, e.g. potatoes.

*Primary, Other*: Year ended 30 June.

## GROSS VALUE OF PRODUCTION

### Agricultural Industries

Agricultural industries, for value of production purposes, comprise the following sectors: (i) crops; (ii) pastoral; (iii) dairying; (iv) poultry; and (v) bee-farming. These sectors have no relation, however, to any classification of individual agricultural holdings on an industry basis; a single holding would usually produce several products, some attributable to one and some to another such sector (e.g. wheat and oats which would be counted in crops, wool in pastoral and milk in dairying). The sectors represent merely a convenient grouping of the aggregate production of individual products.

## Crops

The following table shows gross values for the crop sector:

Gross Value of Production: Crops  
(\\$'000)

Crop	1969-70	1970-71	1971-72	1972-73	1973-74
Cereals for grain .. .. .	2 178	2 296	2 066	1 896	2 916
Legumes mainly for grain.. ..	470	576	258	147	376
Crops for hay (a) .. .. .	237	275	167	426	394
Crops for green feed or silage (b) ..	3 894	2 958	1 905	3 448	3 534
Orchard tree fruit .. .. .	17 071	15 689	12 430	17 312	14 473
Berry and small fruit .. .. .	881	991	1 037	1 064	949
Vegetables for sale for human consumption .. .. .	9 723	8 538	8 648	10 863	13 374
Other crops (a) .. .. .	3 073	2 770	3 352	3 953	4 765
Pasture harvested for hay .. .. .	3 980	5 590	5 612	4 405	8 839
Pasture harvested for seed .. .. .	178	285	179	79	562
Pasture harvested for green feed or silage ..	172	202	218	100	171
Total .. .. .	41 860	40 169	35 870	43 693	50 355

(a) Excludes harvested pasture.

(b) Includes vegetables for stock feed.

The next table shows quantity and value details for the main items comprising the crops sector, also included in the table is the average value per unit of production.

Gross Value of Production: Crops, 1973-74

Crop	Unit of quantity	Production	Gross value	
			Per unit	Total
			\$	\$'000
Crops (excluding pasture harvested)—				
Cereals for grain—				
Barley .. .. .	tonne	23 790	77.00	1 832
Oats .. .. .	tonne	8 247	87.11	718
Wheat .. .. .	tonne	3 510	103.97	365
Total cereals for grain .. .. .	..	..	..	(a)2,916
Legumes mainly for grain—				
Beans—Navy .. .. .	tonne	271	160.00	43
Peas, field—Blue .. .. .	tonne	1 027	183.87	189
Grey and other .. .. .	tonne	723	197.41	143
Total legumes mainly for grain .. .. .	..	..	..	(a) 376
Crops for hay (b) .. .. .	tonne	13 104	30.11	394
Crops for green feed or silage (c) .. .. .	..	..	..	3 534
Fruit—				
Orchard tree fruit—				
Apples .. .. .	bushel	5 948 000	2.29	(d) (e) 13 613
Pears .. .. .	bushel	309 103	2.34	(d) 724
Total orchard tree fruit .. .. .	..	..	..	(a)14 473

## Gross Value of Production: Crops, 1973-74—continued

Crop	Unit of quantity	Production	Gross value	
			Per unit	Total
			\$	\$'000
Fruit—continued—				
Berry and small fruit—				
Currants .. .. .	kg	865 488	0.39	335
Loganberries .. .. .	kg	239 433	0.38	92
Raspberries .. .. .	kg	945 786	0.41	387
Strawberries .. .. .	kg	103 450	1.02	106
Total berry and small fruit .. ..	..	..	..	(a) 949
Vegetables for sale for human consumption—				
Beans, French and runner .. .. .	tonne	8 840	97.03	858
Peas, green (ex-shell) .. .. .	tonne	17 157	115.72	1 984
Potatoes .. .. .	tonne	62 866	86.92	5 464
Total vegetables for sale for human consumption .. .. .	..	..	..	(a) 13 374
Other crops—				
Hops (dry weight) .. .. .	tonne	1 949	1 648.54	3 213
Other .. .. .	..	..	..	1 552
Total other crops .. .. .	..	..	..	4 765
Total (excluding crops from pasture)	..	..	..	40 781
Pasture (f) harvested—				
Pasture harvested for—Hay .. .. .	tonne	448 355	19.72	8 839
Seed .. .. .	kg	1 129 932	0.50	562
Green feed or silage .. .. .	..	..	..	172
Total crops from pasture .. .. .	..	..	..	9 574
Total all crops .. .. .	..	..	..	50 355

(a) Includes other crops not specified in the table.

(b) Excludes pasture for hay.

(c) Includes vegetables for stock feed.

(d) Includes Government Stabilisation Subsidy: \$1 918 000 for apples and \$116 000 for pears.

(e) Includes payments under the 'Apple Industry (Assistance) Act 1974' of \$3 180 000.

(f) Includes lucerne.

As shown in the above table, the most valuable crop according to gross value in 1973-74 was apples (\$13.6m), followed by pasture harvested for hay (\$8.8m), potatoes (\$5.5m) and hops (\$3.2m). The gross value of vegetable crops for sale for human consumption other than potatoes was \$7.9m. The gross values for these crops in the 1972-73 season were as follows: apples, \$16.1m; pasture harvested for hay, \$4.4m; potatoes, \$4.4m; other vegetable crops for sale for human consumption, \$6.4m; and hops, \$2.8m.

## Average Unit Gross Values

In the next table, average unit gross values for the principal crops are shown for a five-year period. The unit values have been calculated for the principal agricultural products by dividing the total quantity produced into the total gross value of production for each crop. They therefore represent weighted average 'prices' of the product in all markets (including the farm itself where quantities are retained for farm use) and indicate trends rather than prices actually paid to farmers.

Average Unit Gross Value of Principal Crops  
(\$)

Crop	Unit of quantity	1969-70	1970-71	1971-72	1972-73	1973-74
<b>Cereals for grain—</b>						
Barley .. .. .	tonne	52.52	51.34	47.29	52.53	77.00
Oats .. .. .	tonne	44.22	44.84	43.18	71.52	87.11
Wheat .. .. .	tonne	52.93	48.27	54.04	52.20	103.97
<b>Legumes mainly for grain—</b>						
<b>Beans—</b>						
Navy .. .. .	tonne	..	..	117.37	120.40	160.00
<b>Peas, field—</b>						
Blue .. .. .	tonne	92.24	100.01	99.98	90.44	183.87
Grey and other .. .. .	tonne	102.72	84.92	77.81	112.13	197.41
Crops for hay .. .. .	tonne	11.48	13.10	12.84	24.38	30.11
<b>Orchard tree fruit—</b>						
Apples .. .. .	bushel	2.10	1.97	1.97	2.30	2.29
Apricots .. .. .	bushel	3.83	3.05	3.51	4.91	3.90
Cherries .. .. .	bushel	6.95	5.85	10.43	16.55	10.85
Nectarines .. .. .	bushel	6.00	5.64	6.10	4.43	5.49
Peaches .. .. .	bushel	6.10	5.46	5.40	5.08	9.41
Pears .. .. .	bushel	2.78	2.74	2.39	3.48	2.34
Plums and prunes .. .. .	bushel	1.66	2.15	2.04	2.54	2.46
Quinces .. .. .	bushel	1.18	1.20	1.33	0.94	2.64
<b>Berry and small fruit—</b>						
Blackberries .. .. .	kg	0.28	0.27	0.23	0.24	0.27
Currants .. .. .	kg	0.31	0.33	0.34	0.35	0.39
Gooseberries .. .. .	kg	0.16	0.19	0.20	0.22	0.24
Loganberries .. .. .	kg	0.32	0.33	0.35	0.34	0.38
Raspberries .. .. .	kg	0.33	0.36	0.35	0.35	0.41
Strawberries .. .. .	kg	0.64	0.70	0.83	0.95	1.02
<b>Vegetables for sale for human consumption—</b>						
Beans, French and runner ..	tonne	132.94	119.97	109.83	111.03	97.03
Peas, green (ex-shell) ..	tonne	99.47	119.08	115.31	106.14	115.72
Potatoes .. .. .	tonne	45.56	41.51	37.32	57.23	86.92
Turnips .. .. .	tonne	98.32	109.22	106.02	105.22	93.98
Hops .. .. .	kg	1.69	1.69	1.88	1.96	1.65
Pasture (a) for hay .. ..	tonne	11.48	13.10	12.84	20.43	19.72
<b>Pasture (a) for seed—</b>						
Clover .. .. .	kg	0.94	0.92	1.02	1.23	1.02
Other .. .. .	kg	0.33	0.45	0.31	0.45	0.49

(a) Includes lucerne.

**Pastoral, Dairying, Poultry and Bee-farming**

The products allocated to the pastoral, dairying, poultry and bee-farming sectors for value of production purposes are:

- (i) *Pastoral Sector*: Comprises wool (including wool on skins), cattle slaughtered (other than culled dairy cows and bobby calves, i.e. calves slaughtered as soon as practicable after birth) and sheep and lambs slaughtered.
- (ii) *Dairying Sector*: Comprises milk, dairy cattle slaughtered (culled dairy cows and bobby calves) and pigs slaughtered.

(iii) *Poultry Sector*: Comprises poultry slaughtered and eggs produced.

(iv) *Bee-farming Sector*: Comprises honey and beeswax produced.

The prime source of data on livestock slaughtered is information supplied by slaughtering establishments, supplemented by farmers' annual census returns giving details of slaughtering on farms. As sufficiently detailed information is not available on the types of cattle slaughtered to enable a precise dissection of total slaughterings to be made between the pastoral and dairying sectors, data on the known culling rate in dairy herds are also used for this purpose. The table that follows gives details of the gross value of production for each of the products of these sectors:

**Gross Value of Production: Pastoral, Dairying, Poultry and Bee-farming**  
(£'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>Pastoral—</b>					
Shorn wool (including crutchings) ..	16 827	13 986	17 044	35 291	30 226
Other wool (a) .. .. .	1 253	998	957	2 191	1 747
Sheep and lambs slaughtered (b) (c) ..	6 464	5 734	5 634	8 622	10 209
Cattle slaughtered (b) (d) .. ..	13 987	13 741	16 920	26 254	35 032
<b>Total .. .. .</b>	<b>38 532</b>	<b>34 459</b>	<b>40 554</b>	<b>72 357</b>	<b>77 214</b>
<b>Dairying—</b>					
Milk .. .. .	21 307	22 244	24 440	22 549	23 144
Cattle slaughtered (d) .. .. .	2 524	2 463	2 409	2 545	6 281
Pigs slaughtered (b) .. .. .	4 943	5 150	5 254	4 821	4 992
<b>Total .. .. .</b>	<b>28 774</b>	<b>29 858</b>	<b>32 103</b>	<b>29 914</b>	<b>34 417</b>
<b>Poultry—</b>					
Eggs .. .. .	4 652	4 495	4 373	4 502	4 548
Poultry slaughtered .. .. .	913	1 053	1 251	1 320	1 505
<b>Total .. .. .</b>	<b>5 566</b>	<b>5 548</b>	<b>5 624</b>	<b>5 822</b>	<b>6 053</b>
<b>Bee-farming—</b>					
Honey .. .. .	120	173	159	213	322
Beeswax .. .. .	7	7	7	7	8
<b>Total .. .. .</b>	<b>127</b>	<b>180</b>	<b>166</b>	<b>220</b>	<b>330</b>

(a) Dead, fellmongered and wool exported on skins.

(b) Includes adjustment for net exports of livestock.

(c) Excludes value of wool on skins.

(d) Culled dairy cows and bobby calves slaughtered are allocated to dairying; all other cattle slaughtered to pastoral.

### Primary Industries

The following table brings together gross values of production for all primary industries (excluding mining) for a five-year period.

**Gross Value of Production: Primary Industries (Excluding Mining) (a)**  
(£ million)

Industry	1969-70	1970-71	1971-72	1972-73	1973-74
Crops .. .. .	41.9	40.2	35.9	43.7	50.4
Pastoral .. .. .	38.5	34.5	40.6	72.4	77.2
Dairying .. .. .	28.8	29.9	32.1	29.9	34.4
Poultry .. .. .	5.6	5.5	5.6	5.8	6.1
Bee-farming .. .. .	0.1	0.2	0.2	0.2	0.3
<b>Total agriculture .. ..</b>	<b>114.9</b>	<b>110.2</b>	<b>114.3</b>	<b>152.0</b>	<b>168.4</b>

**Gross Value of Production: Primary Industries (Excluding Mining) (a)—continued**  
(\$ million)

Industry	1969-70	1970-71	1971-72	1972-73	1973-74
Hunting .. .. .	0.3	0.3	0.3	0.4	0.5
Forestry .. .. .	18.9	17.1	21.9	30.9	43.3
Fishing .. .. .	4.0	6.0	6.8	6.6	7.9
Total other (excluding mining)	23.2	23.4	29.0	37.9	51.6
Total primary (excluding mining) .. .. .	138.1	133.6	143.3	189.9	220.0

(a) See earlier section 'New Value Concepts' for an explanation of why mining has been deleted from this series.

## NET VALUE OF PRODUCTION—ALL RECORDED INDUSTRIES

### Net Value 1973-74

The next table shows, in detail, the method whereby gross values (primary industries) are reduced to local values and then further reduced to net values:

**Value of Production: Primary Industries (Excluding Mining) (a) 1973-74**  
(\$ million)

Industry	Gross value of production (value at principal market)	Less marketing costs	Local value (i.e. production valued at place of production)	Less cost of materials, fuel, etc. used	Net value of production
Agriculture—					
Crops .. .. .	50.4	9.7	40.7	7.2	33.5
Pastoral .. .. .	77.2	5.5	71.8	14.6	57.1
Dairying .. .. .	34.4	1.2	33.2	5.6	27.7
Poultry .. .. .	6.1	0.1	6.0	3.1	2.9
Bee-farming (b) .. .. .	0.3	..	0.3	n.a.	0.3
Total agriculture ..	168.4	16.4	151.9	30.4	121.6
Primary, other (b)—					
Hunting .. .. .	0.5	..	0.4	n.a.	0.4
Forestry .. .. .	43.3	7.4	35.9	n.a.	35.9
Fishing .. .. .	7.9	0.9	7.0	n.a.	7.0
Total other (excluding mining) .. .. .	51.6	8.3	43.3	n.a.	43.3
Total primary (excluding mining) ..	220.0	24.8	195.2	30.4	164.9

(a) See earlier section 'New Value Concepts' for an explanation of why mining has been deleted from this series.

(b) Gross and local values available but production costs not available.

In the preceding table costs of materials, fuels, etc. used are only calculated for the crops, pastoral, dairying and poultry sectors. The selected production costs exclude such items as depreciation charges, the cost of repair and maintenance to

plant, equipment and buildings used in the sectors, veterinary expenses, etc. However, estimates for certain major production cost items, such as stock feed, fertilisers, electric power, fuel, seed, sprays, etc. are prepared. Data for calculation of these selected costs are obtained from a variety of sources, e.g. quantity information is based on data obtained from the annual farm census, merchants dealing with rural producers, manufacturers, etc., while unit costs are obtained from surveys, dealers' and manufacturers' price lists, etc. For bee-farming, hunting, forestry and fishing it is not possible to prepare similar production cost estimates since insufficient information is available on the type and quantity of materials and fuels used.

### Net Value—Summary

The next table summarises, for a five-year period, the net value of production for all recorded industries:

**Net Value of Production: Primary Industries (Excluding Mining) (a)**  
(\$ million)

Industry	1969-70	1970-71	1971-72	1972-73	1973-74
Primary, agriculture—					
Crops .. .. .	24.8	23.1	20.3	25.3	33.5
Pastoral .. .. .	24.2	21.0	26.6	53.2	57.1
Dairying .. .. .	23.0	24.2	26.8	24.0	27.7
Poultry .. .. .	2.7	2.7	2.7	2.8	2.9
Bee-farming (b) .. .. .	0.1	0.2	0.1	0.2	0.3
Total agriculture .. .. .	74.8	71.2	76.6	105.5	121.6
Primary, other (b)—					
Hunting .. .. .	0.3	0.3	0.2	0.4	0.4
Forestry .. .. .	16.1	14.2	18.2	25.4	35.9
Fishing .. .. .	3.3	5.1	5.9	5.7	7.0
Total other (excluding mining)	19.8	19.6	24.4	31.5	43.3
Total primary (excluding mining) .. .. .	94.6	90.8	100.9	136.9	164.9

(a) See earlier section 'New Value Concepts' for an explanation of why mining has been deleted from this series.

(b) Local value of production.

### Tasmania and Australia Compared

Some indicator other than comparison with previous years is needed. Probably the most significant measure is the comparison between the net values of production for all recorded Tasmanian industries and those for Australia as a whole.

**Net Value of Production, Primary Industries (Excluding Mining): Tasmania and Australia**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
NET VALUE OF PRODUCTION: RECORDED PRIMARY INDUSTRIES (a)					
(\$ million)					
Tasmania .. .. .	94.6	90.8	100.9	136.9	164.9
Australia .. .. .	2 913.0	2 803.4	3 151.1	4 002.0	5 185.0



Net Value of Production, Primary Industries (Excluding Mining):  
Tasmania and Australia—continued

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
TASMANIAN PROPORTION OF AUSTRALIAN TOTAL (per cent)					
Primary, agriculture .. ..	2.7	2.7	2.6	2.8	2.5
Primary, other (b)—					
Hunting .. .. .	2.5	3.2	2.6	r 3.6	4.0
Forestry .. .. .	14.0	11.1	13.1	r 17.6	20.5
Fishing .. .. .	5.8	7.0	7.1	r 6.3	7.1
Total other .. ..	r 10.2	r 9.3	r 10.5	r 12.8	15.1
Total primary (ex- cluding mining)	3.2	3.2	3.2	3.4	3.2

(a) (b) See notes at foot of previous table.

## Chapter 9

### MANUFACTURING, ELECTRICITY AND GAS

#### MANUFACTURING

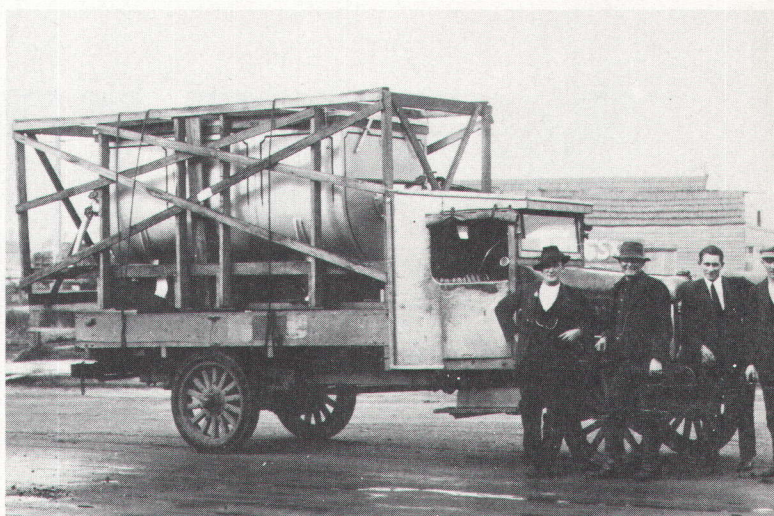
##### Historical

The evolution of Tasmanian farming is described in continuous annual statistics from 1818 but the early records relating to factories are extremely meagre. While the early colonial statisticians had immediately put on record such fundamental measures as areas, crop yields and livestock numbers, they were content, in the matter of factories, to merely classify and count the number of establishments. Some concept of early manufacturing activity can be derived from the following table which has been adapted from the *Statistical Returns of Van Diemen's Land, 1824 to 1839*:

Comparative Account of Manufactories and Trades in Van Diemen's Land

Description of establishment	Number of establishments		Description of establishment	Number of establishments	
	1824	1838		1824	1838
Agricultural implement makers .. ..	..	9	Mills—Steam .. ..	..	3
Breweries .. ..	3	19	Water and wind ..	5	51
Candle makers .. ..	..	4	Potteries .. ..	..	1
Cooperages .. ..	..	9	Printing offices .. ..	1	8
Coachmakers .. ..	..	2	Ropemakers .. ..	1	1
Distilleries .. ..	1	4	Sailmakers .. ..	1	5
Dyers .. ..	..	2	Sawmills .. ..	1	2
Engineers .. ..	..	7	Shipwrights .. ..	..	5
Fellmongers .. ..	2	4	Snuff makers .. ..	..	1
Foundries .. ..	..	3	Soap makers .. ..	1	1
Furriers .. ..	..	2	Tanners .. ..	6	15
Mast and block makers ..	..	1	Wool staplers .. ..	..	3

The grinding of wheat for flour gave rise to the first demand for power, the original solution being water mills and windmills followed by use of the steam engine (the first steam mill commenced in 1831). Later records refer to 'mills, horse-driven', the beast being driven around a circular track. The relation between early factory activity and the farming and whaling economy in which it grew is indicated by the fact that, in the table, five of the descriptions (e.g. fellmongers, etc.) refer to processing of animal products, four, (e.g. shipwrights, etc.) to the construction and maintenance of ships and two (breweries, distilleries) to the making of alcoholic beverages for which there were nearly as many licensed outlets as exist today.



*Top left: Table Cape Butter Factory, 1921*

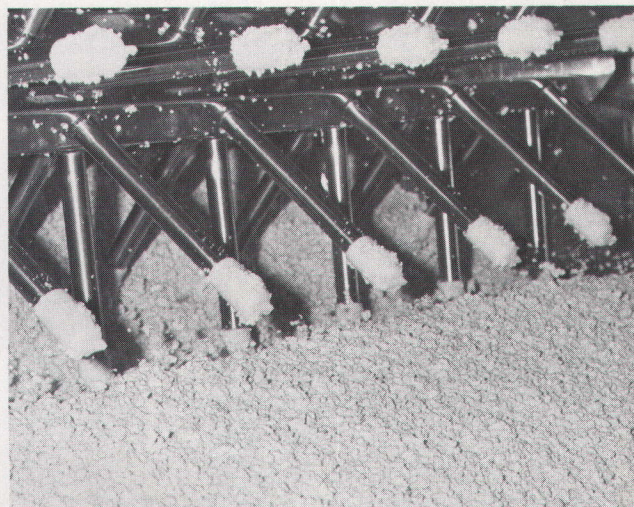
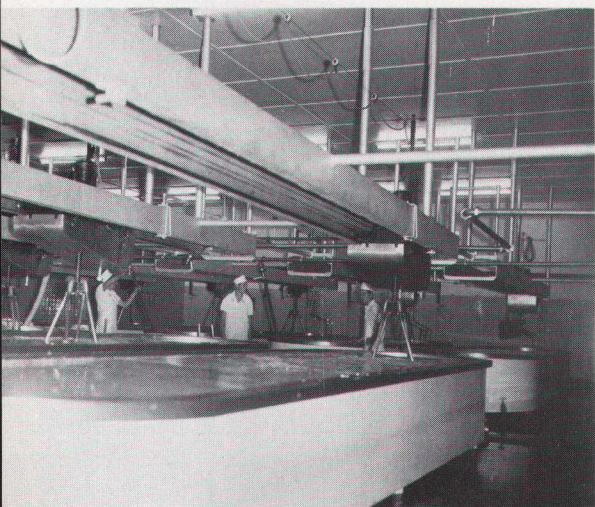
*Lower left: Butter manufacture at Wynyard, 1936.*

*Top right: Packing butter by hand, 1936.*

*Lower right: New cream vat arrives by 'modern' transport.*

*[United Milk Products Ltd]*





*Top: Table Cape Butter Factory, 1892*

*Lower left: Cheese vat at U.M.P. factory*

*Lower right: Cheddar maker draining-conveyor for separation of curds from whey*

*[United Milk Products Ltd]*



The *Account of Manufactories and Trades*, on a simple establishment basis similar to the last table, was published annually throughout the 19th century and is a guide to the introduction of new industries and new skills to the State.

The presentation of factory statistics, in the private sector, on a simple establishment basis failed to answer a number of questions such as the number of employees, the quantities and values of items produced, the total value of output, the capital invested, etc., and this lack of information persisted until 1882 when the Government Statistician began publishing quantity, value and employment data for jam factories and breweries; the coverage of industries was then gradually expanded until, by 1911, publication had commenced of annual factory statistics showing most of the basic information sought in current collections.

Some indication of the transformation of Tasmania from an essentially rural economy is given in the following table in which the proportion of the work force engaged in manufacturing activities is compared in the period 1911 to 1961. The comparison cannot be taken beyond 1961 due to new definitions affecting labour force (1966 Census) and a new industrial classification (1971 Census). A dissection of the 1971 labour force appears in Chapter 6, 'Demography'.

Employment in Tasmanian Factories Compared with Total Labour Force

Particulars	1911	1921	1933	1947	1954	1961
Factory Employment (a)—						
Males .. .. .	8 737	8 525	7 147	16 186	20 249	24 811
Females .. .. .	1 561	1 602	2 086	3 751	4 340	5 347
Persons .. .. .	10 298	10 127	9 233	19 937	24 589	30 158
Labour Force (b)—						
Males .. .. .	61 182	65 998	69 226	80 201	93 976	101 289
Females .. .. .	13 343	14 001	16 861	20 117	24 232	29 628
Persons .. .. .	74 525	79 999	86 087	100 318	118 208	130 917
Factory employment as percentage of labour force—						
Males .. .. .	14.3	12.9	10.3	20.2	21.5	24.5
Females .. .. .	11.7	11.4	12.4	18.6	17.9	18.0
Persons .. .. .	13.8	12.7	10.7	19.9	20.8	23.0

(a) Average number of persons engaged, including working proprietors, as reported in the annual factory census for 1911 and 1921 and those for financial years ending in 1933, 1947, 1954 and 1961. Establishments producing electricity and gas were classified as 'factories'.

(b) Source: censuses of population in years shown; includes employers and self-employed.

### Electric Power and Industrialisation

The key to the large scale industrial development of Tasmania was its abundant water at high level in the Central Plateau and the State's industrial revolution may be thought of as beginning in 1916 when the Waddamana turbines below the Great Lake began operating; from the initial 7 500 kW then developed, the hydro-electric system has expanded to today's capacity of over 1.3m kW. The availability of cheap electric power resulted in the establishment of new types of industry, some on a very large scale; examples are: electrolytic zinc production, 1917; carbide manufacture, 1918; fine paper production, 1938; aluminium production, 1955; ferro-manganese production, 1962. The introduction of pulp and paper manufacture is a special case to the extent that changes in technology made possible the use of native hardwoods for the first time; the production of suitable pulp from eucalypts was pioneered in Tasmania before plants were established in other Australian states.

## MANUFACTURING STATISTICS

## Principal Articles Manufactured

The articles listed later do not include the following important Tasmanian products: aluminium, automotive engine bearings, carbide, cement, confectionery, ferro-manganese alloys, hand tools, hardboard, iron ore pellets, particle board, printing, writing and wrapping papers, starch, titanium di-oxide, canned, dehydrated and quick frozen vegetables, wood pulp, woollen manufactures, and other textile products. Some articles, although principal manufactures, such as cakes, pastry and pies, wooden furniture and joinery (excluding doors) are not included, as value details only are collected for such items.

The following table lists the principal articles manufactured in Tasmania. In several cases, however, where there are only one or two producers or where one producer dominates, it is not possible to publish details for articles that are important and would otherwise appear in the table. To give some indication of changes in production, quantity details are given for 1938-39, and for recent years:

Principal Articles Manufactured: Quantities

Article	Unit	1938-39	1970-71	1971-72	1972-73	1973-74
Acid, sulphuric .. .. .	tonnes	14 385	387 193	558 658	652 513	570 156
Aerated waters .. .. .	'000 litres	1 537	14 049	14 402	15 236	15 751
Bacon and ham .. .. .	tonnes	878	1 803	1 984	1 902	1 931
Bran and pollard .. .. .	tonnes	8 109	8 994	9 198	12 120	11 723
Bread (2lb loaf equivalents) .. .. .	'000	11 337	<i>n.a.</i>	27 931	26 751	<i>n.a.</i>
Bricks, blocks, etc. .. .. .	'000	14 541	39 562	44 945	50 422	58 505
Butter (a) .. .. .	tonnes	4 118	15 273	15 318	12 947	12 398
Cheese .. .. .	tonnes	1 443	5 556	5 923	7 218	8 475
Concrete, ready mixed .. .. .	'000m <sup>3</sup>	..	196 848	212 287	199 791	236 407
Electricity, total generated .. .. .	mkWh	567	5 451	5 778	5 902	6 010
Fertilisers—						
Sulphate of ammonia .. .. .	tonnes	..	40 252	41 358	48 654	33 191
Superphosphate .. .. .	tonnes	30 569	105 323	104 763	177 192	180 458
Flour .. .. .	tonnes	17 764	22 264	22 488	31 698	34 643
Fruit—						
Canned or bottled—						
Apples, solid pack .. .. .	tonnes	1 049	4 990	3 626	5 955	7 669
Berry fruits .. .. .	tonnes	416	200	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Dehydrated and evaporated apples .. .. .	tonnes	346	261	283	457	<i>n.a.</i>
Bed bases, woven wire .. .. .	no.	3 386	7 090	6 792	10 333	10 077
Paper, newsprint .. .. .	tonnes	..	178 683	181 477	199 053	200 852
Timber—						
Sawn, peeled or sliced (b)—						
Hardwood .. .. .	'000 m <sup>3</sup>	197.0	394.3	401.2	403.8	398.2
Softwood .. .. .	'000 m <sup>3</sup>	3.6	11.8	11.6	12.4	16.1
Dressed—						
Floorboards .. .. .	'000 m <sup>3</sup>	12.1	<i>n.a.</i>	60.7	77.3	<i>n.a.</i>
Weatherboards .. .. .	'000 m <sup>3</sup>	4.5	<i>n.a.</i>	1.8	5.2	<i>n.a.</i>
Other .. .. .	'000 m <sup>3</sup>	2.7	<i>n.a.</i>	59.8	58.4	<i>n.a.</i>
Woodchips, etc. (green weight) (c) .. .. .	'000 tonnes	..	829	1 213	2 191	3 043
Zinc, refined .. .. .	tonnes	70 946	162 271	175 798	193 782	182 749

(a) Includes butter equivalent of butter oil.

(b) Includes timber to be further processed.

(c) Defined in forestry section of chapter 8.

## Manufacturing Statistics

Annual censuses of factories were conducted by the Bureau from almost the start of the present century; the last 'old style' factory census covered the year 1967-68. For 1968-69 simultaneous integrated economic censuses were undertaken in respect of manufacturing and four other sectors (mining; wholesale trade; retail trade; and electricity and gas production and distribution).

The integrated economic censuses 1968-69 were fully described in Appendix A of the 1972 Year Book in which there also appears an explanation of the factors which made necessary the termination of 'old style' factory censuses and the start of a new series, based on new reporting units and data concepts. In this section, the results of manufacturing censuses covering 1968-69, 1969-70, 1971-72 and 1972-73 are given. Preliminary results for 1973-74 are shown in Appendix A. (There was no census for 1970-71.)

Definitions and data concepts introduced by the integrated economic censuses will be found in Appendix B. A summary of factory statistics relating to the years preceding the integrated censuses is set out in chapter 9 of the 1973 Year Book.

### Census Results

The following tables summarise the information from the annual manufacturing censuses, as a time series. In more detailed later tables, only the final results of the single year 1972-73 are given.

#### *Manufacturing Establishments Classified According to Industry*

The tables that follow contain a summary of the principal manufacturing statistics by industry sub-division:

**Manufacturing Establishments: Operations by Industry Sub-division (a)**

ASIC code (b)	Industry sub-division Description	Year ended June	Estab- lish- ments operat- ing at 30 June	Employment (including working proprietors)— average over whole year			Wages and salaries	Turn- over
				Males	Females	Persons		
21,22	Food, beverages and tobacco	1969	no. 202	no. 4 522	no. 1 876	no. 6 398	\$'000 18 777	\$'000 119 744
		1970	189	4 659	1 907	6 566	20 299	130 307
		1972	168	4 228	1 753	5 981	21 556	149 617
		1973 <sub>r</sub>	157	4 221	1 704	5 925	23 706	172 166
23	Textiles	1969	17	1 752	2 027	3 779	8 990	35 457
		1970	19	1 759	2 115	3 874	9 063	35 021
		1972	21	1 630	2 027	3 657	10 785	39 634
		1973 <sub>r</sub>	20	1 733	2 057	3 790	12 330	43 992
24	Clothing and footwear	1969	13	110	244	354	671	1 576
		1970	13	108	248	356	702	1 692
		1972	13	93	214	307	756	1 584
		1973 <sub>r</sub>	12	102	232	334	901	2 052
25	Wood, wood products and furniture	1969	397	4 257	282	4 539	11 731	50 524
		1970	391	4 400	292	4 692	12 845	57 381
		1972	364	4 256	364	4 620	14 698	65 837
		1973 <sub>r</sub>	351	4 401	344	4 745	17 160	87 768
26	Paper and paper products and printing	1969	52	4 671	960	5 631	19 734	78 404
		1970	58	4 808	1 004	5 812	21 191	89 766
		1972	62	5 126	941	6 067	27 170	99 846
		1973	67	4 877	862	5 739	27 392	109 564
27	Chemical, petroleum and coal products	1969	16	1 303	77	1 380	5 058	27 341
		1970	18	1 324	77	1 401	5 581	30 319
		1972	21	1 396	80	1 476	7 122	36 242
		1973 <sub>r</sub>	21	1 356	82	1 438	7 637	40 082



## Manufacturing Establishments: Operations by Industry Sub-division (a)—continued

Industry sub-division		Year ended June	Establishments operating at 30 June	Employment (including working proprietors)—average over whole year			Wages and salaries	Turn-over
ASIC code (b)	Description			Males	Females	Persons		
			no.	no.	no.	no.	\$'000	\$'000
28	Non-metallic mineral products	1969	53	1 024	74	1 098	3 744	16 375
		1970	48	980	72	1 052	3 976	17 654
		1972	54	948	79	1 027	4 275	20 720
		1973 <sub>r</sub>	55	995	80	1 075	5 196	23 060
29	Basic metal products	1969	14	3 975	141	4 116	15 856	121 418
		1970	14	3 967	139	4 106	16 575	138 513
		1972	14	3 681	130	3 811	19 292	136 120
		1973 <sub>r</sub>	15	3 657	144	3 801	21 173	150 457
31	Fabricated metal products	1969	88	1 295	198	1 493	3 924	17 094
		1970	88	1 384	210	1 594	4 908	21 585
		1972	86	1 179	196	1 375	4 780	19 755
		1973 <sub>r</sub>	84	1 175	197	1 372	5 218	21 275
32	Transport equipment	1969	27	1 075	152	1 227	3 555	9 315
		1970	23	1 063	168	1 231	3 649	10 027
		1972	34	1 047	200	1 247	4 328	12 421
		1973	31	1 055	190	1 245	5 332	14 372
33	Other industrial machinery and equipment and household appliances	1969	57	787	129	916	2 648	8 808
		1970	60	761	138	899	2 876	8 055
		1972	60	1 053	127	1 180	3 905	11 329
		1973 <sub>r</sub>	62	858	84	942	3 663	10 120
34	Miscellaneous manufacturing	1969	15	121	22	143	375	1 051
		1970	24	158	19	177	439	1 315
		1972	36	219	40	259	746	2 506
		1973 <sub>r</sub>	37	238	40	278	993	3 856
	Total manufacturing	1969	951	24 892	6 182	31 074	95 065	487 109
		1970	945	25 371	6 389	31 760	102 104	541 636
		1972	933	24 856	6 151	31 007	119 411	595 612
		1973 <sub>r</sub>	912	24 668	6 016	30 684	130 703	678 763

(a) No census held covering 1970-71.

(b) Australian Standard Industrial Classification number.

Manufacturing Establishments: Operations by Industry Sub-division (a)  
(\$'000)

Industry sub-division		Year ended June	Stocks		Purchases, transfers in and selected expenses	Value added	Fixed capital expenditure
ASIC code (b)	Description		Opening	Closing			
21,22	Food, beverages and tobacco	1969	20 266	21 574	84 595	36 458	4 831
		1970	20 742	22 891	89 235	43 221	5 829
		1972	21 608	21 663	99 472	50 200	5 127
		1973 <sub>r</sub>	21 678	21 976	107 852	64 612	7 054
23	Textiles	1969	15 649	15 743	18 740	16 811	636
		1970	11 093	10 892	18 993	15 827	697
		1972	10 195	9 760	20 519	18 679	844
		1973 <sub>r</sub>	10 064	14 118	26 922	21 124	626

**Manufacturing Establishments: Operations by Industry Sub-division (a)—continued**  
(\\$'000)

Industry sub-division ASIC code (b)	Description	Year ended June	Stocks		Purchases, transfers in and selected expenses	Value added	Fixed capital expen- diture
			Opening	Closing			
24	Clothing and footwear	1969	362	356	727	844	5
		1970	355	325	737	925	-1
		1972	275	259	651	917	17
		1973	273	305	1 000	1 084	18
25	Wood, wood products and furniture	1969	11 541	12 260	28 554	22 689	1 426
		1970	12 502	12 915	32 414	25 381	1 170
		1972	13 857	14 394	37 538	28 835	10 720
		1973 <sub>r</sub>	14 556	15 619	48 698	40 133	10 236
26	Paper and paper pro- ducts and printing	1969	12 869	12 972	37 301	41 206	17 901
		1970	12 925	14 245	49 996	41 090	15 192
		1972	16 273	16 805	53 015	47 364	166
		1973	16 842	14 245	59 010	47 957	1 011
27	Chemical, petroleum and coal products	1969	5 844	5 972	16 909	10 561	2 119
		1970	5 976	6 065	17 293	13 115	12 737
		1972	5 901	6 277	20 792	15 826	2 106
		1973 <sub>r</sub>	6 152	6 212	22 626	17 516	1 352
28	Non-metallic mineral products	1969	1 859	2 127	8 110	8 534	1 721
		1970	2 132	2 275	8 037	9 760	1 603
		1972	2 360	2 629	9 347	11 642	1 170
		1973	2 645	2 557	9 780	13 192	r 645
29	Basic metal products	1969	18 535	25 620	85 650	42 853	4 654
		1970	25 276	22 729	79 076	56 890	10 854
		1972	28 133	35 039	94 715	48 310	4 063
		1973	r 35 088	31 486	95 296	51 560	2 158
31	Fabricated metal pro- ducts	1969	3 831	3 989	10 045	7 207	654
		1970	3 922	4 238	12 590	9 311	430
		1972	4 404	4 262	11 497	8 116	313
		1973 <sub>r</sub>	4 248	4 085	12 066	9 045	342
32	Transport equipment	1969	2 097	2 356	4 074	5 499	496
		1970	2 372	2 563	4 257	5 960	611
		1972	2 752	2 940	5 079	7 531	550
		1973	2 967	3 515	4 943	9 977	535
33	Other industrial mach- inery and equipment and household appli- ances	1969	1 550	1 515	4 451	4 322	353
		1970	1 420	1 492	4 174	3 953	210
		1972	1 471	1 641	5 330	6 170	638
		1973 <sub>r</sub>	1 623	1 485	4 473	5 509	694
34	Total miscellaneous manufacturing	1969	237	250	584	480	285
		1970	195	274	743	650	110
		1972	559	875	1 345	1 477	231
		1973 <sub>r</sub>	854	672	1 961	1 712	221
	Total manufacturing	1969	94 640	104 735	299 739	197 464	35 080
		1970	98 911	100 904	317 546	226 083	49 443
		1972	107 787	116 543	359 300	245 068	25 944
		1973 <sub>r</sub>	116 990	116 275	394 628	283 420	24 893

(a) No census held covering 1970-71.

(b) Australian Standard Industrial Classification number.

*Tasmania-Australia Comparison*

Using 1968-69 as the base: Australian employment in manufacturing in 1972-73 was 2.9 per cent greater whereas the corresponding Tasmanian employment had decreased marginally. Again with 1968-69 as base: 'value added' for Australian manufacturing in 1972-73 was 43.8 per cent higher; the corresponding Tasmanian increase was 43.5 per cent.

The Tasmanian share in 1972-73 of Australian employment in manufacturing was 2.36 per cent; and of Australian 'value added' in manufacturing, 2.64 per cent.

**Manufacturing by Statistical Division and Major Urban Areas**

The next table shows, as a time series, the chief measures of manufacturing operations by statistical divisions:

**Manufacturing Establishments: Main Items by Statistical Division (a)**

Main items	Unit	Year ended June	Statistical divisions			Tasmania
			Hobart and Southern	Northern	Mersey-Lyell	
Number of establishments	no.	1969	416	327	208	951
		1970	409	326	210	945
		1972	397	327	209	933
		1973 <sub>r</sub>	391	324	197	912
Employment (b)—Males	no.	1969	10 741	7 242	6 909	24 892
		1970	11 182	7 333	6 856	25 371
		1972	10 591	7 452	6 813	24 856
		1973 <sub>r</sub>	10 322	7 590	6 756	24 668
Females ..	no.	1969	2 343	2 447	1 392	6 182
		1970	2 402	2 583	1 404	6 389
		1972	2 179	2 546	1 426	6 151
		1973 <sub>r</sub>	2 127	2 501	1 388	6 016
Persons ..	no.	1969	13 084	9 689	8 301	31 074
		1970	13 584	9 916	8 260	31 760
		1972	12 770	9 998	8 239	31 007
		1973 <sub>r</sub>	12 449	10 091	8 144	30 684
Wages and salaries	\$'000	1969	40 115	27 586	27 364	95 065
		1970	44 328	29 218	28 561	102 104
		1972	48 379	35 992	35 040	119 411
		1973 <sub>r</sub>	52 075	40 751	37 877	130 703
Value added .. .. .	\$'000	1969	79 018	62 404	56 043	197 464
		1970	93 534	66 232	66 316	226 083
		1972	96 425	73 543	75 100	245 068
		1973	r114 757	r 82 693	85 969	r283 420
Fixed capital expenditure ..	\$'000	1969	18 549	4 957	11 578	35 084
		1970	15 580	4 897	28 967	49 443
		1972	8 295	15 081	2 569	25 944
		1973 <sub>r</sub>	6 617	12 259	6 016	24 893

(a) No census held covering 1970-71.

(b) Includes working proprietors; figures are average over whole year.

For the year 1972-73 manufacturing establishments located in the Urban Hobart area accounted for 32.8 per cent of the average number of persons employed over the year and contributed 30.8 per cent of the total value added by manufacturing establishments in Tasmania. The corresponding percentages for Urban Launceston were: employment (average over the whole year), 24.1 per cent and for value added 18.1 per cent.

### Geographical Distribution of Classes of Industry

The next series of tables, containing the principal manufacturing variables, is a regional cross-classification by industry sub-divisions for the year ended 30 June 1973:

#### Manufacturing by Statistical Division and Type of Industry, 1972-73

ASIC code	Industry sub-division Description	Estab- lish- ments operat- ing at 30 June no.	Employment (including working proprietors)— average over whole year			Wages and salaries \$'000	Value added \$'000
			Males no.	Females no.	Persons no.		

#### HOBART STATISTICAL DIVISION

21,22	Food, beverages and tobacco ..	52	1 841	925	2 766	10 624	26 368
23	Textiles .. .. .	6	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
24	Clothing and footwear .. ..	5	58	116	174	457	541
25	Wood, wood products and furni- ture .. .. .	85	931	136	1 067	3 403	6 214
26	Paper and paper products and printing .. .. .	28	1 882	272	2 154	9 794	17 765
27	Chemical, petroleum and coal pro- ducts .. .. .	8	758	28	786	3 788	6 447
28	Non-metallic mineral products ..	16	364	37	401	1 888	3 813
29	Basic metal products .. .. .	8	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
31	Fabricated metal products .. ..	34	598	122	720	2 653	4 044
32	Transport equipment .. .. .	15	77	4	81	296	414
33	Other industrial machinery and equipment .. .. .	37	517	60	577	2 197	3 400
34	Miscellaneous manufacturing ..	18	107	20	127	355	483
	Hobart division .. .. .	312	9 712	2 039	11 751	49 538	102 465

#### SOUTHERN STATISTICAL DIVISION

21,22	Food, beverages and tobacco ..	12	69	61	130	339	2 211
25	Wood, wood products and furni- ture .. .. .	57	406	13	419	1 400	6 161
26	Paper and paper products and printing .. .. .	3	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
27	Chemical, petroleum and coal pro- ducts .. .. .	1	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
31	Fabricated metal products .. ..	1	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
32	Transport equipment .. .. .	3	5	..	5	4	33
33	Other industrial machinery and equipment .. .. .	2	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
	Southern division .. .. .	79	610	88	698	2 537	12 292

Manufacturing by Statistical Division and Type of Industry, 1972-73—*continued*

Industry sub-division		Establishments operating at 30 June	Employment (including working proprietors)—average over whole year			Wages and salaries	Value added
ASIC code	Description		Males	Females	Persons		
			no.	no.	no.		
NORTHERN STATISTICAL DIVISION							
21,22	Food, beverages and tobacco ..	48	1 167	258	1 425	5 771	16 970
23	Textiles .. .. .	12	1 124	1 561	2 685	8 198	11 088
24	Clothing and footwear .. ..	6	43	111	154	437	525
25	Wood, wood products and furniture .. .. .	134	1 642	100	1 742	6 638	15 372
26	Paper and paper products and printing .. .. .	18	415	138	553	2 377	4 475
27	Chemical, petroleum and coal products .. .. .	7	41	11	52	242	940
28	Non-metallic mineral products ..	23	205	14	219	990	2 220
29	Basic metal products .. ..	4	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
31	Fabricated metal products .. ..	30	406	38	444	1 783	3 143
32	Transport equipment .. .. .	12	968	186	1 154	5 019	9 486
33	Other industrial machinery and equipment .. .. .	19	292	21	313	1 283	1 853
34	Miscellaneous manufacturing ..	11	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
	Northern division .. ..	324	7 590	2 501	10 091	40 751	82 693
	Statistical sub-divisions—						
	Tamar .. .. .	286	7 198	2 445	9 643	39 113	80 078
	North Eastern .. ..	38	392	56	448	1 639	2 615
MERSEY-LYELL STATISTICAL DIVISION							
21,22	Food, beverages and tobacco ..	45	1 144	460	1 604	6 972	19 062
23	Textiles .. .. .	2	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
24	Clothing and footwear .. ..	1	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
25	Wood, wood products and furniture .. .. .	75	1 422	95	1 517	5 719	12 386
26	Paper and paper products and printing .. .. .	18	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
27	Chemical, petroleum and coal products .. .. .	5	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
28	Non-metallic mineral products ..	16	426	29	455	2 318	7 147
29	Basic metal products .. ..	3	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
31	Fabricated metal products .. ..	19	170	37	207	782	1 855
32	Transport equipment .. .. .	1	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
33	Other industrial machinery and equipment .. .. .	4	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
34	Miscellaneous manufacturing ..	8	96	7	103	488	695
	Mersey-Lyell division .. ..	197	6 756	1 388	8 144	37 877	85 969
	Statistical sub-divisions—						
	North Western .. ..	188	6 709	1 384	8 093	37 716	85 596
	Western .. .. .	9	47	4	51	161	373
TASMANIA							
	Total manufacturing .. ..	912	24 668	6 016	30 684	130 703	283 420

*Non-comparability*

Direct comparisons with figures for the years preceding 1968-69 are not possible because of changes in the census units, the scope of the census and the items of data.

Attention is called to one major change in scope in 1968-69, namely the exclusion of electricity and gas production; in tables for previous years this sector appeared as Class XVI Heat, Light and Power. Details of establishments classified to this sector appear in the next section of this chapter. 'Value added' in the tables of this section is conceptually allied to the old 'value of production' but the difference in definition prevents direct comparison of 1968-69 and later figures with those for previous years.

**Tasmania in Comparison with Other Australian States**

A comparison of Tasmanian manufacturing activity with that of the other Australian states and territories is shown in the following table. Applying the appropriate population relativity factors to the Tasmanian figures, it will be seen that, on most indicators Tasmania is relatively more industrialised than Queensland, Western Australia, Northern Territory and the Australian Capital Territory and approaches the level of South Australia.

**Tasmania-Australia Comparison of Manufacturing Activity, 1972-73**

State or territory	Population relativity (a)	Establishments	Wages and salaries	Turn-over (b)	Stocks at 30 June		Purchases, etc. (c)	Value added
					1972	1973		
N.S.W. .. ..	11.9	no. 13 619	\$m 2 332	\$m 10 119	\$m 1 661	\$m 1 689	\$m 5 891	\$m 4 257
Vic. .. ..	9.1	11 731	2 037	9 081	1 507	1 554	5 393	3 735
Qld. .. ..	4.8	4 212	483	2 845	331	333	1 834	1 013
S.A. .. ..	3.0	2 914	523	2 172	399	410	1 286	897
W.A. .. ..	2.7	2 826	275	1 375	166	185	893	501
<b>Tasmania</b> .. ..	<b>1.0</b>	<b>912</b>	<b>131</b>	<b>679</b>	<b>117</b>	<b>116</b>	<b>395</b>	<b>283</b>
N.T. .. ..	0.2	100	14	43	9	17	23	28
A.C.T. .. ..	0.4	132	16	61	5	6	31	30
<b>Total Australia</b> ..	<b>33.1</b>	<b>36 446</b>	<b>5 812</b>	<b>26 375</b>	<b>4 194</b>	<b>4 309</b>	<b>15 746</b>	<b>10 744</b>

(a) Tasmania's total mean population for 1972-73 is expressed as 1.0; other state populations in proportion to 1.0.

(b) Sales, transfers out and other operating revenue.

(c) Purchases, transfers in and selected expenses.

**CENSUS OF ELECTRICITY AND GAS ESTABLISHMENTS, NEW SERIES****Introduction**

Until 1968-69 factory production statistics contained details for Class XVI (Heat, Light and Power); in the 'old style' annual factory censuses, of which the last covered 1967-68, this class was confined to the *production* of electricity and gas and such operations were treated as a particular type of factory activity. For 1968-69 simultaneous economic censuses were undertaken in respect of electricity and gas production and distribution and four other sectors (manufacturing; retail trade; wholesale trade; and mining). In this section results of the 1971-72 census of electricity and gas establishments for Tasmania are given. (For a detailed description of the 1968-69 integrated economic censuses; see Appendix A of the 1972 Year Book.)

## Definitions of Electricity and Gas Establishments

*Basic Census Unit*

The basic census unit, in general, now covers all the operations carried on under the one ownership at a single physical location. However, for electricity and gas, the basic census unit is *an exception* to the above general concept of the standardised unit. The nature of the activities of electricity and gas undertakings makes the single operating location basis unsuitable. In the Tasmanian situation, for example, the householder paying a bill for power may draw his electricity from any combination of 20 or so stations in an integrated grid; in brief, 'sales' are not recorded against individual stations but are necessarily credited to the grid as a whole.

The special establishment unit in this census consists of *all locations*, including administrative offices and ancillary units, mainly concerned with the production and/or distribution of electricity or gas, operated by the one undertaking in the one state.

*Effects of New Classification*

The use of the above new definition is one of the reasons for the number of electricity and gas establishments in 1971-72 being considerably less than those of earlier years. A second cause is the exclusion from 1968-69 of some generating stations operated by enterprises for their own use (only if their value of sales and transfers of electricity exceeded \$100 000 were such stations included in the electricity census).

**Data Concepts**

It should be stressed that pre-1968-69 figures for the 'Heat, Light and Power' class of industry referred only to production; from 1968-69, the electricity and gas census covers not just production but also distribution.

The new data concepts, definitions, etc. introduced in the 1968-69 census are set out in Appendix B.

**Results, 1971-72**

Direct comparisons with figures for years prior to 1968-69 are not possible because of changes in the census units, the scope of the census and the items of data.

Census of Electricity and Gas Establishments (a), 1971-72: Summary

Establishments operating at 30 June 1972	.. no.	5
Persons employed (average over whole year)—		
Males	.. .. "	2 727
Females	.. .. "	244
Persons	.. .. "	2 971
Wages and salaries	.. .. \$m	14.7
Turnover	.. .. "	47.6
Stocks at 30 June—		
1971	.. .. "	5.0
1972	.. .. "	5.3
Purchases, transfers in and selected expenses	.. .. "	2.2
Value added	.. .. "	45.7

(a) Establishments producing and/or distributing. See special definition of *establishment* in preceding text.

The following table gives a comparison between Tasmania and the other Australian states. Applying the appropriate population relativity factors to Tasmanian figures it can be seen that Tasmania compares favourably on most indicators.



Tasmania-Australia Comparison of Census of Electricity and Gas Establishments (a), 1971-72

State (b)	Popula- tion relativity	Estab- lish- ments	Persons em- ployed	Wages and salaries	Turn- over (c)	Stocks at 30 June		Pur- chases, etc. (d)	Value added
						1971	1972		
		no.	no.	\$m	\$m	\$m	\$m	\$m	\$m
N.S.W. ..	11.8	72	28 740	152.7	755.9	52.9	57.5	363.4	397.1
Vic. ..	9.0	17	18 225	98.6	374.8	26.9	27.9	136.5	239.3
Qld ..	4.7	28	9 544	47.2	205.9	13.5	14.8	84.2	123.0
S.A. ..	3.0	16	6 532	34.0	106.5	8.8	9.2	29.2	77.7
W.A. ..	2.7	48	4 606	22.9	82.3	7.5	7.8	22.9	59.7
Tasmania ..	1.0	5	2 971	14.7	47.5	5.0	5.3	2.2	45.7
Total Australia	32.9	193	71 187	373.0	1 592.1	114.8	122.8	648.0	952.1

(a) Establishments producing and/or distributing. See definition of *establishment* in preceding text.

(b) In some states electricity is produced by undertakings other than those which distribute it. In these states sales of electricity are duplicated due to the inclusion of bulk sales to distributors in addition to retail sales. Sales figures for N.T. and the A.C.T. are not available for separate publication; therefore the territories have been included only in the total.

(c) Sales, transfers out and other operating revenue.

(d) Purchases, transfers in and selected expenses.

## INDUSTRIAL DEVELOPMENT

### Source of Data

In normal circumstances, the Bureau of Statistics does not publish information relating to any single enterprise or establishment, and treats any such information it collects as strictly confidential. It does, however, publish statistical aggregates where they do not directly or indirectly reveal the operations of any single informant.

A description of industrial growth without mentioning individual organisations is not very illuminating; therefore, the *State Directorate of Industrial Development and Trade* has prepared the following section and accepts responsibility for the information given, while in the section describing 'Selected Tasmanian Industries' the firms included have provided the information published.

### Primary-Secondary Relativity

Prior to World War II, there were few large manufacturing establishments in Tasmania. The economy of the State was dominated by primary industries which, in 1938-39, accounted for 60 per cent of the net value of production of all recorded industries.

By today's criteria, pre-war operations of manufacturing establishments were on a small scale but some enterprises have since emerged as national leaders in particular fields. Despite the limitations of geographical isolation and a relatively small domestic market, the State went through a period of important industrial development following World War II; the cessation of hostilities released a world-wide demand for goods and services, and a number of new Tasmanian factories were established to take advantage of the situation.

Post-war expansion of factory activity has made the State an important supplier of manufactured goods and processed materials. Major factories which have been established since World War II include producers of chemicals, wood pulp, textiles, processed foods, industrial equipment, refined aluminium, manganese alloys, iron ore pellets and woodchips.

### Tasmania as a Site for Industry

The State has certain advantages which have attracted new industrial enterprises. The principal factors are:

*Hydro-Electric Power:* This is described elsewhere in this chapter and it is therefore sufficient to mention the need for power-intensive industries for cheap bulk electricity (e.g. in metal smelting and refining, heavy chemicals, paper and paper pulp making).

*Water Resources:* In some parts of the world, water resources are inadequate; shortage of water and the high cost of conservation, re-use and 'purification' have become major problems in the expansion of industry. This is definitely not the situation in Tasmania where water is abundant. The terrain favours the economical construction of high-level storages, while run-of-the-river pumping schemes are feasible at many sites.

*Industrial Land, Harbours and Shipping:* Cheap land, and its proximity to deep-sea ports are factors influencing the expansion of industry in and around the four main centres of population: Hobart, Launceston, Burnie and Devonport.

The associated ports are served by overseas ships and by interstate ships using modern roll-on roll-off and containerised cargo techniques.

*Legislation and Government Assistance:* The policy of the State Government is to promote the establishment and growth of secondary industries in Tasmania, as provided by the *Industrial Development Act 1954*. This Act is administered by the Director of Industrial Development and Trade under the Minister for Industrial Development.

The Directorate gives advice, information and assistance on a wide range of important industrial matters, and is empowered to provide financial assistance, including loan guarantees, with the object of helping establish new industries or expanding those in operation.

### Major Industries

The following lists major factories operating in Tasmania:

*Aluminates Tasmania Pty Ltd, Heybridge:* This company has recently established a chemical plant at Heybridge to produce sodium aluminate, zinc oxide and alum sulphate. Operations commenced in 1973.

*Associated Pulp and Paper Mills:* This group of companies is a major Australian integrated forest products complex and Australia's principal producer of fine printing and writing papers, magazine papers and coated papers. In Tasmania the company operates major manufacturing complexes at three centres: (i) *Burnie*—where it commenced paper production in 1938; present annual capacity of the Burnie plant is 121 000 tonnes. Hardboard is also produced at the Burnie complex by the associate company Hardboards Australia Ltd. (ii) *Wesley Vale*—In 1970 the first stage of an integrated pulp and paper complex was completed when the first paper machine commenced production. The machine has an annual capacity of 35 500 to 41 000 tonnes of paper. Production at Wesley Vale is mainly of magazine papers. A particle board factory, run by the subsidiary Burnie Timber Pty Ltd, also operates at Wesley Vale; annual production exceeds 2.5m square metres. (iii) *Long Reach*—A.P.P.M. completed its woodchip plant in mid-1972 and made its first export shipment in late 1972. The company has two contracts for the export of woodchips to Japan: (a) 600 000 tonnes per annum from 1972 to 1983; (b) an additional 300 000 tonnes per annum from 1973 to 1978.

*Australian Glass Manufacturing Co. (Hobart)*: This company is an operating unit of Australian Consolidated Industries Ltd, and has been manufacturing glass containers in Tasmania since 1949. Current capacity is up to 50 tonnes of glass containers a day. A plastic blow moulding plant was established in 1972 to produce containers.

*Australian Newsprint Mills Ltd (Boyer)*: The first paper machine, with a capacity of 27 400 tonnes per annum, began operating in 1941; a second machine, installed after the war, increased capacity to 95 500 tonnes of newsprint per annum; the third machine was commissioned in 1969. Annual production is now about 195 000 tonnes. The company meets approximately 45 per cent of Australia's newsprint requirements.

*Australian Paper Manufacturers Ltd (Port Huon)*: Production began in 1963, with an initial capacity of 25 400 tonnes of pelletised wood pulp per annum; in 1974 production was 84 000 tonnes.

*British Carpets (Aust.) Pty Ltd (E. Devonport)*: The first piece of Tasmanian carpet was woven in 1961. Since then a spinning and dyeing plant has been installed (1965) and additional looms have been progressively introduced. In 1972 a five-year expansion programme commenced and this will double production capacity.

*Cascade Group of Companies*: Operates the Cascade Brewery in Hobart (established in 1824), the Boag's Esk Brewery in Launceston and cordial, fruit juice and apple cider making companies. Installation of new fermenting units at the Cascade and Esk breweries has substantially increased beer production capacity.

*Cadbury Schweppes Australia Ltd (Claremont)*: In 1921 an association of three British confectioners established their Australian plant at Claremont, near Hobart. Today, the plant is the largest cocoa and confectionery factory in Australia. Following a takeover in 1967, MacRobertson (Australia) Ltd became a subsidiary of Cadbury Fry Pascall Australia Ltd. In 1971 Cadbury Fry Pascall Australia Ltd merged with Schweppes (Australia) Ltd. A plant was installed at Claremont in 1974 for apple juice extraction and concentration for export.

*Coats Patons (Aust.) Ltd (Launceston and George Town)*: This company first produced yarns in Launceston in 1923 with a staff of 130. Steady expansion followed. The Launceston and George Town factories are now producing hand-knitting, worsted and synthetic yarn; mending, embroidery and rug wools; and yarns for use by industrial machine knitters.

*Comalco Aluminium (Bell Bay) Ltd*: The production of aluminium commenced in 1955 at a plant erected with Australian Government funds (with State Government participation). The present company was formed in 1960 to buy out the Federal Government's interest. Production capacity has grown from 13 000 to 95 600 tonnes of primary aluminium a year. A \$20m expansion programme, scheduled for completion in 1975, will increase production capacity to 114 500 tonnes a year.

*Comalco Aluminium Powder Pty Ltd (Bell Bay)*: This plant was established in 1968 to produce aluminium powder and paste and is capable of supplying the whole of Australia's requirements. Production capacity has recently been doubled.

*Commonwealth Industrial Gases Ltd*: Recent expansion enabled this company to produce and supply a wide range of industrial and medical gases from branches in Hobart, Launceston, Burnie and Devonport.

*Edgell (Division of Petersville Ltd) (Devonport and Ulverstone)*: Is Tasmania's leading producer of processed vegetables. Combined factory intake of vegetables for both centres is about 66 000 tonnes per annum.

*Electrolytic Zinc Company of A/asia Ltd (Risdon)*: Established in 1916, the factory at Risdon is now one of the largest electrolytic zinc plants in the world. The company produces zinc and zinc alloys, cadmium, sulphuric acid, superphosphate, sulphate of ammonia and aluminium sulphate. Production capacity at the company's mining complex at Rosebery is 610 000 tonnes of silver-lead-zinc ore per annum. Production of refined zinc has doubled over the last 20 years; output in 1973-74 was 181 336 tonnes. The zinc plant supplies a large proportion of Australia's total requirements.

*Goliath Portland Cement Company Ltd (Railton)*: Formed in 1928 to take over a small plant, the company began production in 1930 with an output of 66 000 tonnes of cement a year. Annual production capacity increased to about 100 000 tonnes by the end of the decade and was more than 200 000 tonnes by 1956. Plant expansion in 1970 lifted annual production capacity to over 500 000 tonnes.

*James Nelson (Aust.) Pty Ltd (Launceston)*: Established in 1951, the company now produces a wide range of fabrics for women's and men's apparel, rain-wear, household furnishings, typewriter ribbons, computer tapes, decorative ribbons, banners and blanket bindings, as well as fabrics for industrial uses. It also specialises in parachute fabrics. The company is a member of the Courtauld's Group.

*J. C. Hutton Pty Ltd (Launceston)*: Commenced operations in Tasmania in 1906; produces ham, bacon, smallgoods and is a leading meat exporter.

*Kelsall and Kemp (Tas.) Ltd (Launceston)*: From small beginnings in 1921, the company has become a leading producer of woven fabrics in the Australian textile industry.

*Lactos Pty Ltd (Burnie)*: A \$1.25m cheese manufacturing unit was opened early in 1973 to supply Gouda cheese to Japan. Further extensions in 1974 have enabled the company to produce 2 000 tonnes of Gouda cheese annually for the Japanese market in addition to the other types of cheese produced.

*Longford Meat Company (R. J. Gilbertson Pty Ltd) (Longford)*: Produces boned beef and mutton for export. Extensions to chilling and boning facilities were completed in 1973 at a cost of \$400 000.

*Northern Woodchips Pty Ltd (Long Reach)*: The Long Reach plant is designed with capacity in excess of firm contractual commitments as a provision against future growth in the woodchip export market. Present contracts are for the export of more than 9.1m tonnes of woodchips over a 15 year period. The first export shipment took place in 1973.

*North-West Acid Pty Ltd (Burnie)*: Established in 1970 to process pyrites from the west coast, the \$14m plant has a designed annual production capacity of some 420 000 tonnes of sulphuric acid.

*Repco Bearing Company Pty Ltd (Launceston)*: In 1949 this company was established to manufacture engine bearings for the Australian automotive spare parts trade. The factory has since expanded and diversified the range of products. There was significant expansion in 1973 and 1974. The company now employs more than 700 persons.

*Savage River Mines (Pickands Mather and Co. International Managing Agent):* Established at a cost of \$80m, the Port Latta iron ore pelletising plant commenced operation in 1968. Annual production is about 2.5m tonnes of high-grade iron ore pellets. The entire production is sold to Japanese steel mills.

*S. P. Holman and Sons Pty Ltd (Devonport):* Is one of Tasmania's principal slaughterers of livestock for export. Employment is about 90 persons.

*Tasmanian Electro Metallurgical Co. Pty Ltd (Bell Bay):* The Broken Hill Co. Pty Ltd established a plant in 1962 to produce high carbon ferro-manganese for the Australian steel industry, with an initial annual output in excess of 26 000 tonnes. A current \$28.5m expansion programme will increase capacity from 77 000 tonnes to about 154 000 tonnes of ferro-manganese and silico-manganese a year.

*Tasmanian Pulp and Forest Holdings Ltd:* In early 1971 the company made its first export shipment of woodchips from its Triabunna plant to Japan. The company has since been supplying 610 000 tonnes of woodchips annually to Japan under a 15 year contract.

*Tas. Meats Limited (Somerset):* A \$0.8m beef processing establishment was completed in early 1973. The plant has a production capacity of 160 cattle a day.

*The Stanley Works Pty Ltd (Moonah):* This company was incorporated in 1963 and is jointly owned by the Stanley Works, United States of America, and the Titan Manufacturing Company Pty Ltd (a B.H.P. subsidiary). The Australian member of the new company, Titan Manufacturing Company, commenced operations in Hobart in 1945 making nails and barbed wire, later diversifying to produce wood chisels. The Stanley Works Pty Ltd now produces a wide range of hand tools.

*Tioxide Australia Pty Ltd (Burnie):* Production of titanium dioxide pigments began in 1948 with a plant capacity of more than 1 500 tonnes per annum. Current production capacity is 25 400 tonnes.

*Tootal of Australia (Devonport):* First operations in 1952 used piece-goods imported from the U.K. to make textiles. The company now manufactures a wide range of woven and knitted fabrics from man-made fibres.

*United Milk Products (Smithton):* Is one of the State's principal producers of butter, milk-powder, casein and cheese. Annual butter production is about 3 500 tonnes. Casein is exported to Japan, U.S.A. and Europe. The company also operates an abattoir—it is a leading bacon producer.

*Universal Textiles Australia Ltd (Derwent Park):* This company is part of the textile division of the Dunlop (Aust.) Group. The Hobart manufacturing division commenced operations in 1948. Additional machinery has since been installed and the company now supplies printed fabrics in silk, polyester, nylon, rayon and cotton fabrics. Production also includes woven fabrics for light furnishings, apparel and sailcloth, as well as printed sheets and shower screens.

*Wander (Aust.) Pty Ltd (Quoiba):* Established in Tasmania in 1942, the Quoiba unit has become one of the largest 'Ovaltine' factories in the world. The factory is equipped to manufacture all types of malt extract to specification, as well as a range of dietetic products.

*Wattie Pict Ltd (Scottsdale):* Wattie Pict Ltd acquired Kraft Foods Ltd's Scottsdale vegetable processing operation in 1974. The company intends to increase and diversify production at the plant.

**SELECTED TASMANIAN INDUSTRIES**

The following account of Tasmanian manufacturing activities has been prepared from information made available by the companies concerned.

**United Milk Products Ltd***History*

United Milk Products Ltd was formed in 1973 by the merger of the Duck River Co-operative Butter Factory Co. Ltd and the Table Cape Butter and Bacon Factory Ltd. The Table Cape Butter Factory was established in September 1892 when north-western Tasmania was generally depressed and markets for dairy produce were poor, butter being produced only for local consumption on individual farms.

The original steam powered Table Cape Butter Factory provided a much needed boost to the area. Creameries were established in outlying areas to separate the milk and save the cost of carting whole milk to the butter factory. By the late 1890's production was outstripping local demand and the first butter was exported.

The Duck River Butter Factory enjoyed similar early success. From the nine tonnes of butter produced in 1905, production was increased to 107 tonnes in 1920 and prior to the formation of United Milk Products in 1973, production was in the region of 4 000 tonnes annually.

Both factories contributed significantly to the growth and prosperity of the north-west coast area and the following extract from the *North Western Advocate* of 30 May 1905, is indicative of this contribution:

'The importance of the butter industry on the mainland was the theme of a recently returned produce dealer to the north-west coast. He states that all along the coastline from Melbourne to Sydney, dairying is one of the staple industries. He particularly mentioned the vicinity of the Richmond River where at one time most of the holdings were practically in the hands of the banks but thanks to the creameries instituted, the settlers have redeemed their land and were now in a fairly prosperous state. The success of the Table Cape Butter Factory, for example, is Tasmania's corroboration of this statement.'

The companies branched out into other dairy produce fields following the success of the butter factories. The greatest success has been in cheese making which began in 1963 at Yolla. In August 1965 a new cheese factory was opened at Wynyard. In 1971 this factory was further expanded by the addition of some of the most modern equipment available. Milk powder and casein manufacture are also increasing in importance. A second spray drier for milk powder has recently been installed at a cost of more than \$100 000, doubling the output capacity to about 6 000 tonnes annually.

*Raw Materials*

Prior to 1901 milk was delivered either to creameries (established in outlying areas to separate cream) or direct to the factory. The innovation of farm separators around 1901 made it unnecessary to cart whole milk to factories and transport had only to be provided for the separated cream.

Whole milk, however, is now delivered in stainless steel tankers to factories at Edith Creek, Wynyard and Smithton for processing into milk powder, cheese and casein. Cream for butter production at Smithton is delivered in tankers from the Wynyard and Edith Creek factories or pumped direct from the casein factory at Smithton. A limited amount of cream is still delivered in cans in the traditional manner.

In the early years of production, milk was bought on a quantity basis; however, it was soon realised that payment based on the butter fat content was more equitable. Payment for the butter fat content determined by the Babcock testing method was generally accepted only after several years controversy and is still the basis for paying milk suppliers today.

About 111 million litres (24.5 million gallons) of milk are used annually by United Milk Products factories. At the peak of the season over 545 thousand litres (120 thousand gallons) of milk are collected daily, by a fleet of stainless steel tankers, from an area of about 5 000 square kilometres.

### *Butter Production*

Approximately four per cent of cream used in butter production is still handled in the traditional manner, being delivered in cans to the factory. The remaining cream is delivered by tanker or pumped directly from other United Milk Products factories. The cans are weighed and the milk tested for butter fat content which is generally in the range of 32%-48%. The cream is then graded by tasting.

Cream contains varying amounts of lactic acid and the acid content is reduced to a desirable level by the automatic addition of a neutraliser in the cream pipeline between the storage vats and the pasteuriser. The cream is heated in the pasteuriser to 132°C to ensure the complete destruction of bacteria and produce a butter with good keeping qualities. It is then cooled rapidly to 7°C and stored overnight in vats.

The following day the cream is pumped to churns and rotated for about an hour until the butter fat has agglomerated into granules and separated from the butter milk. The butter milk is drained off and the butter washed in sterile chilled water to remove any butter milk still remaining in the churns. Sterile butter salt is added and worked through the butter by the agitation of the churns. Approximately two tonnes of butter are produced in each churn.

The butter is loaded onto stainless steel trolleys and fed into automatic wrapping machines. Butter for the local market is wrapped and stored in cartons in the cool room ready for despatch to retailers. Over 40 tonnes of Duck River butter is marketed weekly in Tasmania. For markets outside Tasmania the butter is packed in bulk form in 25.4 kilogram (56 pound) boxes.

A three tonnes per hour continuous buttermaking machine has been installed for use during the 1975-76 season. This will be run in conjunction with the traditional churns for a one year trial period after which conversion to a completely automatic butter making procedure is expected.

### *Cheese Production*

Table Cape cheese is manufactured at the Company's plant at Wynyard. The process begins with pasteurisation and milk is then pumped from the pasteuriser to 12 cheese vats. The cheese starter, a pure culture of lactic acid bacteria grown in sterile skim milk, is automatically metered into the milk line between the pasteuriser and the vats.

Rennet is then added to the milk to facilitate curdling. After setting at 31° C for 30 minutes the curd is cut into half inch cubes using stainless steel knives strung with nylon. The curds and whey are gently agitated and held at 38° C for about 2 hours until the desired firmness and acidity are attained.

From the vats the curds and whey are pumped together to the cheddarmaster draining conveyor which is basically a stainless steel conveyor belt with fine drainage holes through which the whey passes. The curd is agitated by a series of peg stirrers to promote even drainage. The final moisture content of the curd is controlled by varying the drainage time and the degree of agitation.



The curd is then blown through a 7.62 mm stainless steel pipe to the inlet of the cheddarmaster tower about 11 metres above floor level where the curd is held for about two hours until the desired acidity is reached. During this period the curd is fused or cheddared automatically by its own weight into one block weighing about four tonnes. Cut off doors at the base of the cheddaring tower open and shut automatically whenever the curd falls to a pre-determined level, discharging two large slabs of curd.

The slabs of curd from the tower are discharged into the curd mill which mills them into chips ready for salting. The salting unit meters the correct amount of salt for the flow of curd through it and the salted curd is taken on to 12 large hoop presses by a blower.

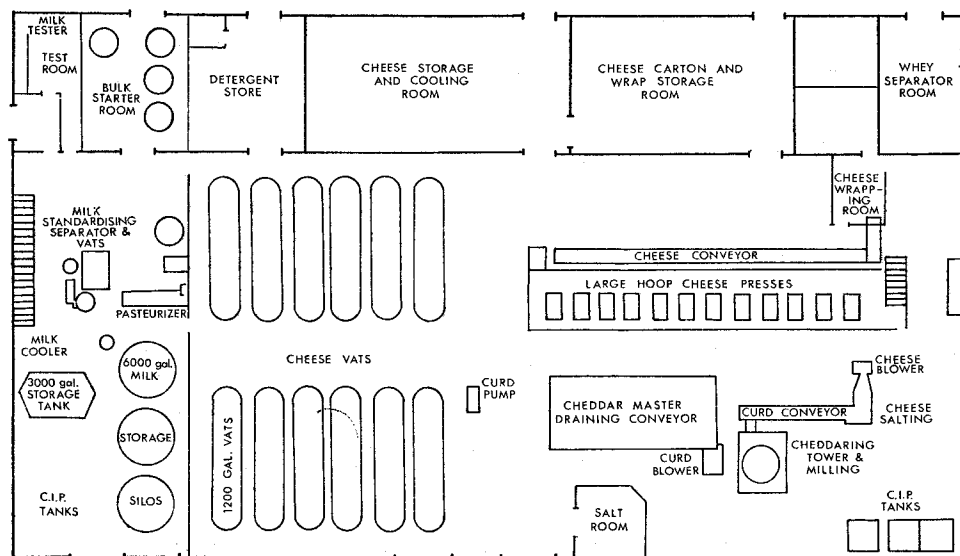
The 12 presses each hold about one tonne of cheese under high pressure overnight. The presses are an alternative to 750 traditional cheese hoops, each with about 18 kilograms capacity. They also represent a substantial labour saving over the traditional hoops which required a considerable amount of labour in bandaging, carrying, emptying and cleaning.

After the cheese has been pressed a cutterhead is clamped onto each press in turn. The cutterhead is essentially a box consisting of four compartments into which cheese is forced from the hoop press. A cut off knife cuts through the cheese once the compartments are filled and the four blocks of cheese, each weighing about 19 kilograms (42 lb), are removed from the cutterhead and conveyed to the wrapping room. The process is repeated until the hoop is emptied and the cutterhead is moved to the next hoop.

The finished cheese is wrapped and sealed in plastic and placed in cartons to mature for 9-12 months. The cheese is packed in smaller sizes for the Tasmanian market or exported in 19 kilogram (42 lb) blocks.

The following diagram illustrates the layout of the United Milk Products cheese factory at Wynyard:

**United Milk Products: Cheese Factory Plan**



### *Casein Production*

Casein is the principal protein in milk and is contained in the skim milk portion of whole milk. Almost 36 000 litres of whole milk are needed to produce 1 tonne of casein. Acid casein manufactured by United Milk Products is used in adhesives, paper coatings and foodstuffs. To date the major use of casein has been in paper coating but as it is composed of about 86% pure protein it is a valuable supplement in food manufacture and its future may lie in this field.

The manufacturing process can be split into the following distinct stages: (i) separation; (ii) cooking and acidulation; (iii) washing; (iv) pressing; (v) drying; (vi) tempering; (vii) grinding and; (viii) sifting and bagging.

On arrival at the Smithton plant, milk is pumped into four large vertical storage vats prior to processing. The first step in manufacture is to warm the milk to between 27° C and 32° C and separate the cream from the skim milk by a continuous de-sludging process. The separated cream is then pumped direct to the Duck River butter factory for processing whilst the skim milk is pumped into three large stainless steel holding vats.

The skim milk is piped from the holding vats as required and the acidity is adjusted by metering sulphuric acid into the milk in the pipeline. The milk is then cooked in the pipeline at 49° C by steam injection. After cooking the curd precipitates from the acid whey on passing over a ripple chute on the way to the washing vats.

The washing process is carried out in five stages by continuously pumping the curds and whey from one agitated washing vat to the next via inclined screens. The whey is drained off through the screens between each vat and the washing and draining cycle repeated. Any small particles of casein left in the whey after washing are recovered by passing the whey through a vibrating sieve on its way to the piggery for pig food.

The washed curd is pressed to remove most of the water before drying. The curd is passed between perforated rollers which reduce the water content to between 50% and 60%. It is then dried by hot filtered air blown through perforated vibrating dryers, reducing the moisture content to 10-12 per cent before being blown to the tempering silo.

The casein is held in the tempering silo for several hours to allow the moisture to become evenly distributed throughout the particles prior to grinding. Grinding is then carried out by roller mills similar to those used in the flour milling industry.

The final product is sifted into three mesh sizes by planetary sifters and any oversized particles are returned to the mill for further grinding. The casein is then packed into 25 kilogram polythene lined bags according to mesh size and is ready for the market.

### *Milk Powder Production*

The manufacture of milk powder has increased rapidly in Australia in recent years because of its increased usage in developing countries and the relative proximity to these markets. The company's factory at Edith Creek was built with expansion in mind and the addition of a second spray drier recently has doubled the output capacity of the plant.

Manufacture of the powder entails two main processes: (i) evaporation (condensing); and (ii) spray drying. Both whole milk and skim milk powders are produced by the same method.

Evaporation is effected by boiling the milk in a vacuum. The vapour from the milk is drawn off leaving condensed milk which is pumped to storage tanks ready for drying. To achieve economies of operation the boiling is done in multiple stages and the vapour from one stage is used to heat the milk for further boiling in successive stages.

The concentrated milk is then pumped to the spray drying chamber where it is atomised into small particles or mist. Hot air is blown into the chamber and immediately dries up all the moisture in the milk leaving a very fine powder which is conveyed by air through a series of cooling chambers to the storage bins ready for packing into 25 kilogram bags for marketing.

Milk powder is used extensively throughout Tasmania and the mainland states for confectionery and food manufacture as well as being exported to several overseas countries.

### *Other Products*

In addition to the products previously outlined, United Milk Products runs a piggery using whey and butter milk from the Smithton factory, conducts an abattoir, supermarket, general store, butchery and garage at Smithton and an export cool store at Wynyard which handles butter and cheese destined for export markets. The abattoir at Smithton has recently been rebuilt and new equipment installed to bring it up to the high standard required for export meat slaughtering and packing. Present output is about 26 000 cattle per year.

### *Output and Marketing*

The wide range of dairy and meat products manufactured by the United Milk Products Ltd has enabled the company to secure markets in many overseas countries as well as supplying Tasmanian and interstate markets. The following table highlights the importance of export markets to the continued success of the company:

**United Milk Products Limited**  
**Production and Exports, 1973-74**  
**(Tonnes)**

Commodity	Production	Exports	Principal overseas markets
Butter .. .. .	3 562	1 173	Canada, Japan
Cheese .. .. .	3 456	1 810	Philippines, Caribbean, U.S.A., Japan
Casein .. .. .	592	587	U.S.A., Japan, Holland, United Kingdom, Norway, Italy, West Germany, Belgium
Milk powder .. .. .	3 318	1 828	Taiwan, Panama, Japan, Philippines, Indonesia

### *Employment*

The average number of employees is about 265 although employment is partly seasonal as milk intake increases during late spring and early summer. Employment increases to about 280 during this period.

### *Expansion*

The amalgamation of two companies to form United Milk Products Limited was a result of the rationalisation which has characterised the industry in recent years. The result is a highly integrated operation which is continuing to expand and diversify as market prospects improve. The company is continually seeking new markets and its success will ensure the continued prosperity of the dairy industry on the north-west coast.

**Tasmanian Electro Metallurgical Co. Pty Ltd***Ferro Alloys*

A ferro alloy is a combination of iron and some other useful element which, when added to steel, deoxidises and cleanses the steel of impurities as well as imparting certain desired properties to it. The addition of ferro manganese, for example, in quantity, produces a hard steel which is resistant to abrasion. Some quantity of ferro manganese is added to all steel to produce a metal suitable for rolling and shaping. There are many ferro alloys but the most commonly used in steelmaking are ferro manganese, ferro silicon and ferro chrome, which are produced by smelting in electric furnaces.

*Growth of the Ferro Alloy Industry*

Prior to 1940 the Australian steel industry was wholly dependent on overseas sources for its supply of ferro alloys. Due to the importance of the steel industry to Australia and the uncertainty of supply from overseas during the war years, the Broken Hill Proprietary Company decided to manufacture most of the ferro alloys required for steelmaking in Australia.

In 1940 a ferro alloy plant was erected within the steelworks at Newcastle. The plant was capable of producing sufficient alloy to meet the requirements of the company's two major steel plants at Newcastle and Port Kembla. A complete range of ferro alloys was produced including some 20 different alloys of silicon, manganese, chromium, molybdenum, titanium, vanadium, tungsten and nickel.

After the war the manufacture of alloys required in smaller quantities was discontinued, mainly for economic reasons, and production was confined to the more common alloys of manganese, silicon and chrome. Although the plant at Newcastle had surplus capacity at the end of the war, this was absorbed by increasing steel production and deficiencies of certain alloys necessitated some importation. By 1959 the annual steel output of B.H.P. had reached about three million tonnes and imports of ferro alloys increased appreciably. It was then that the company decided to expand production of ferro alloys and establish an additional smelting plant. In 1960 the Tasmanian Electro Metallurgical Company was formed as a subsidiary of B.H.P. to set up a new plant. Bell Bay in Tasmania was chosen as the site because of the availability of hydro-electric power and the convenience of a deep, all-weather port. The plant was designed to produce the country's requirements of ferro manganese and silico manganese initially with provision for future expansion into the manufacture of other ferro alloys and electro-metallurgical products. A 16,000 k.VA (kilovolt amp) closed rotating ferro manganese furnace commenced operation in 1962 and a second was commissioned in 1966.

Following the opening of the plant at Bell Bay the Newcastle plant concentrated on the manufacture of ferro silicon and ferro chrome. With recent annual steel production capacity in the region of nine million tonnes, however, additional ferro manganese production capacity was required and several thousand tonnes of ferro silicon were imported annually to supplement the output at Newcastle. In view of the small capacity and obsolescence of the furnaces at Newcastle it was decided to close the plant in December 1974 and rationalise all ferro alloy production in the one plant at Bell Bay.

Two new electric furnaces are being installed at Bell Bay and are expected to begin operating in 1976. The first, an Elkem 27 000 k.VA closed furnace for ferro manganese and silico manganese manufacture, will increase the installed manganese furnace capacity to 59 000 k.VA, capable of producing, on a standard ferro manganese basis, 135 000 tonnes annually. The second, an Elkem 45,000 k.VA semi-closed ferro silicon furnace, will have an annual production capacity of about 27 000 tonnes of high grade alloy of 75-78 per cent silicon content.

A sinter machine for sintering manganese ore fines (i.e. reduction of the ore to a lower state of oxidation) is also expected to begin operating early in 1976. Sintering capacity will be about 600 tonnes per day.

#### *Pollution Control*

The existing furnaces, additional furnaces and sinter machine at Bell Bay have all been designed to prevent both air and water pollution. The two 16 000 k.VA closed manganese furnaces are equipped with Buffalo scrubbers of the disintegrator type for wet cleaning of the reduction gas formed in the carbon reduction smelting process. Fume and other solids contained in the gas cleaning effluent are collected in settling ponds.

Gas from the new 27 000 k.VA closed manganese furnace is to be cleaned in two-stage Venturi scrubbers with effluent water treatment in a thickener and collection of the solids as a filter cake on a rotary drum filter. Recovery of the manganese contained in the filter cake may be achieved by incorporating it in the feed to the sinter machine for recycling in the manganese smelting furnaces. In the case of the 45 000 k.VA semi-closed ferro silicon furnace the reduction gas will burn on the surface of the charge under a smoke hood and the gas will be cleaned in a bag filter fitted with glass fibre bags. The collected fume, consisting of almost pure silica in very finely divided form, will be pelletised on a disc for disposal as a filling material. Dust collection from the sinter machine will be by electrostatic precipitator from the sintering chambers and by multicone from the cooling air.

#### *Raw Materials*

With the exception of chrome ore, all raw materials used in the manufacture of the various ferro alloys are from Australian sources. For satisfactory furnace operation and efficient production of ferro alloys the raw materials are required to be of high quality with regard to both chemical and physical properties.

Raw materials, as charged to the furnace, are required to have a certain sizing and be relatively free from fines to permit the free escape and uniform distribution of gas throughout the charge. The size of ores depends to some extent on the size of furnace. Size, however, depends mainly on the time of descent of the charge in the furnace to ensure maximum preheating before reaching the smelting zone which is in the vicinity of the end of an electrode. The coke size must be small as large coke results in low electrical resistivity causing shallow electrode penetration in the charge which leads to poor furnace operating conditions.

For greatest furnace and smelting efficiencies raw material preparation by screening to remove fines is essential. Such fines, however, may be utilised after some form of agglomeration such as sintering and returned to the furnace as charge material.

*Manganese ore:* Manganese ores are supplied from the company's deposits on Groote Eylandt in the Gulf of Carpentaria which are operated by Groote Eylandt Mining Company, a subsidiary of B.H.P. In addition, a proportion of manganiferous iron ore from the company's iron ore deposits near Whyalla in South Australia is used for controlling the grade of manganese alloys. Silico manganese production is mainly from ferro manganese slags together with some Groote Eylandt ore.

*Quartzite:* The principal raw material for ferro silicon manufacture is quartzite obtained from the company's lease at Beaconsfield near Bell Bay. Some quartzite is also required to provide the silicon content of silico manganese. The quartzite for ferro silicon production is required to have a silica content of at least 98 per cent and to be low in impurities, particularly alumina. Alumina reduction results in high power consumption and the presence of aluminium in the ferro silicon alloy is often undesirable.

*Limestone and Dolomite:* For the slag forming alloys such as ferro manganese and silico manganese, the basic fluxes of limestone and dolomite are obtained from the company's deposits at Rapid Bay and Ardrossan in South Australia.

*Coke:* Coke, as the reducing agent for ferro alloy production, is obtained as small sizings screened from blast furnace coke at the Newcastle steelworks. Metallurgical nut coke is satisfactory for the production of the slag-forming alloys such as ferro manganese and silico manganese but, for ferro silicon manufacture, coal and woodchips are used for reductants as well as coke.

The quality of coke which is used as the reducing agent has a very significant effect on the results of ferro alloy smelting. The coke should be high in fixed carbon content with low ash, and should preferably display high reactivity. Gas cokes are therefore most suitable, when available, but metallurgical cokes in the smaller sizings, produced as screenings from iron blast furnace coke, are generally quite satisfactory.

#### *The Production Process*

The raw materials required for feeding the furnaces are stockpiled and transferred by front end loader to a conveyor system as required. The conveyor system sends the material to a crushing station where it is reduced to a suitable size for charging into the furnace and stored in bins.

By the use of automatic scales at the base of each bin, raw materials are blended into the correct charging mixture and the prepared charge is transferred to the furnace by a telpher crane. The crane lifts the charge material to the top of the furnace building then travels on a monorail to the charge hoppers located above the furnaces. The material is then fed into the hoppers and gravity fed to the furnaces.

The two 16 000 k.VA furnaces presently operating at Bell Bay generally produce ferro manganese for seven months of the year and fully utilise the resultant slag in silico manganese production during the remaining five months. The furnaces are closed rotating hearth furnaces each with three self baking electrodes, 1 420 mm in diameter, consisting of 14 gauge steel casings charged with carbon paste. Each furnace is regulated from the control room in the furnace building. The main controls are for power input and depth of the electrodes. However, furnace temperatures, gas analysis and furnace rotation are also regulated from the control room.

The furnaces are tapped at four-hourly intervals releasing the molten alloy and slag which are separated by a skimmer. The alloy and slag are then layer cast. Prior to shipping, ferro manganese is crushed and screened to three different sizings. Some ferro manganese is distributed to foundries in 200 kilogram steel drums whilst the rest of the output is shipped in bulk to interstate steel works.

Both new furnaces will have automatic charge proportioning and charging similar to the existing furnaces.

*Sintering:* The sintering machine being installed at Bell Bay is expected to be in operation in early 1976. The sintering process reduces manganese ore to a lower state of oxidation. A proportion of good quality sinter in the furnace charge results in a lower power requirement for smelting ferro alloys. When the sinter machine is operational, standard ferro manganese will be manufactured from a blend of approximately equal proportions of Groote Eylandt metallurgical lump ore and sinter produced from ore fines, and intermediates obtained from Groote Eylandt. Silico manganese will be produced from ferro manganese slag with a manganese content of about 30 per cent, and sintered lower grade Groote Eylandt ore fines.

*Ferro Silicon:* Although ferro silicon may be produced with various silicon contents, the most common standard steel making grade contains about 75 per cent. The raw materials used in the manufacturing process are: quartzite as the source of silicon; steel scrap or mill scale as the source of iron; and reducing agents such as coke, coal and woodchips. The woodchips supply some fixed carbon for reduction but mainly provide bulk to the charge to increase the porosity and to promote uniform escape and distribution of reduction gases.

The chemistry of the process is the carbon reduction of silica to silicon which alloys with melted or reduced iron. Reduction of oxides is complete and there is no slag formation. The reduction of silica takes place in two stages with the combination of silica and carbon to form silicon carbide which is subsequently oxidised by silica to form silicon.

Some silicon monoxide is formed by reaction between silicon carbide and silica and between silica and carbon. Silicon monoxide is very volatile and is the main cause of silicon fume loss in smelting. However, with good furnace operating conditions and a relatively cool furnace charge top, silicon monoxide is partly condensed and reverts to silicon and silica. Another source of silicon fume loss is the dissociation of silicon carbide to silicon and carbon at temperatures above 2 400°C.

*Manganese Alloys:* Manganese alloys produced in the electric carbon reduction furnace are generally high carbon ferro manganese and various grades of silico manganese, the latter being used as a ferro alloy in steelmaking or as an intermediate product in the manufacture of low and medium carbon ferro manganese.

Manganese oxide ore is smelted with coke and some limestone or dolomite flux to produce ferro manganese and slag. The reduction is normally selective to allow some 30 per cent of manganese to remain in the slag which is subsequently used as the principal raw material in the manufacture of silico manganese. When manganese ore is smelted with coke, the main oxides reduced are those of manganese and iron. Manganese reduction is principally from manganese monoxide as the higher oxides dissociate. Manganese dioxide dissociates to manganic oxide above 400°C and manganic oxide to manganous oxide at 950°C. Manganous oxide is converted to manganese monoxide when the furnace smelting temperature reaches 1 200°C—1 400°C. Reduction of manganese monoxide with solid carbon produces metallic manganese and manganese carbide.

Liberated oxygen from the dissociation of higher oxides combines with carbon to form carbon monoxide, and with carbon monoxide to form carbon dioxide. Under favourable operating conditions, with good distribution of reduction gas throughout the charge, some of the higher manganese oxides are reduced to lower oxides by reactions with carbon monoxide.

Thus when manganese ore is smelted in the electric furnace, manganese, iron, phosphorus and some silicon are reduced to mix and alloy in the hearth of the furnace. Silica contained in the ore and the coke ash, together with other gangue materials, form a slag of silicates with manganese monoxide.

Silico manganese is generally produced in conjunction with high carbon ferro manganese by using the high manganese slag, containing some 30 per cent manganese, as the principal charge material. The furnace charge consists of high manganese slag, manganese ore, limestone or dolomite for slag control and coke as reductant. In this way, by utilising all the slag from ferro manganese production, the two alloys may be produced with a high overall recovery of manganese and a low combined product cost.



The approximate composition of ferro manganese is: manganese, 76 per cent; iron, 16 per cent; carbon, seven per cent; and traces of silicon, phosphorus and sulphur. Silico manganese composition is approximately: manganese, 66 per cent; silicon, 16 per cent; iron, 16 per cent; carbon, two per cent; and traces of phosphorus and sulphur.

### *The Future of the Industry*

At the time of establishing the Temco plant at Bell Bay in 1960 it was envisaged that in the future it would become a major electrometallurgical works and provision was made by purchasing adequate land for such expansion and development. In the case of the two new ferro manganese and ferro silicon furnaces provision has been made for duplication with additional furnaces utilising the same raw material, charge proportioning and alloy casting systems for each pair of furnace units.

To enable the Bell Bay plant to produce a complete range of the major ferro alloys required for steelmaking, the installation of a large universal furnace is under consideration. Such a furnace should be capable of producing the chromium alloys of high carbon ferro chrome, charge chrome and chrome silicide and also miscellaneous alloys such as high silicon manganese silicide and ferro silicon zirconium. Other alloys being used in Australia and which could logically be considered for Bell Bay are medium carbon and low carbon ferro manganese. These are produced by an electro-silico-thermal method in which manganese ore is reduced with silicon (introduced as low carbon silico manganese) in an electric arc furnace using lime to flux the silica formed in the process of reduction. This is a batch process in which carbon control of the alloy is regulated by the silicon content of the silico manganese.

Completion of the current expansion programme will increase the installed furnace capacity to more than 100 000 k.VA and the plant load to some 80 000 kW. A ferro alloy plant of this size is large by world standards and, with the possibility of further expansion, the Bell Bay installation is expected to become one of the largest and most efficient of modern ferro alloy plants. The company employs about 160 persons and employment will increase as the new equipment comes into operation.

## **GOVERNMENT HYDRO-ELECTRIC POWER**

### **Output and Capacity of the Hydro-Electric System**

Until 1971 Tasmania was unique among Australian states in that its electric power system was based exclusively on hydro-electric installations but in 1971 a thermal oil-fired station commenced operations at Bell Bay opening a new phase in the development of the generating system. Other Australian states rely principally on thermal plants while hydro-electric power, if available, is used only to supplement the basic supply. The Snowy River Hydro-Electric Scheme, which feeds power to Victorian and N.S.W. grids, is not designed to cope with the base load demand in these states, and its essential function is to provide the extra power necessary to meet peak loads, and also to supply irrigation water to the inland. The Tasmanian system, despite its lower installed capacity, produces more power than the Snowy Scheme.

### **Hydro-Electric Development**

#### *Early Development*

Hydro-electric power for public use was first introduced in 1895 with construction of the 450 kW *Duck Reach* station on the South Esk River near Launceston. This was a purely municipal supply and work on Tasmania's state-wide system did not begin until 1911 with the exploitation of the Great Lake catchment waters and diversion of the Ouse and Shannon Rivers.

The following table outlines the development of the Tasmanian generating system:

Tasmanian Power Generating System

Station	Year of commission	Head (in metres)	Generator capacity (kW) (a)	Assessed annual capacity (million kWh) (b) <sup>r</sup>
COMPLETED STATIONS				
Waddamana 'B' .. ..	1949	344	48 000	(c)
Tarraleah .. ..	1951	299	90 000	583
Butlers Gorge .. ..	1951	56	12 200	68
Trevallyn .. ..	1955	126	80 000	541
Tungatinah .. ..	1956	306	125 000	552
Lake Echo .. ..	1956	173	32 400	75
Wayatinah .. ..	1957	62	38 250	265
Liapootah .. ..	1960	110	83 700	439
Catagunya .. ..	1962	43	48 000	251
Poatina .. ..	1965	829	250 000	1 275
Tods Corner .. ..	1966	41	1 600	13
Meadowbank .. ..	1967	29	40 000	200
Cluny .. ..	1967	16	17 000	89
Repulse .. ..	1968	27	28 000	154
Rowallan .. ..	1968	49	10 450	37
Lemonthyme .. ..	1969	159	51 000	284
Devils Gate .. ..	1969	69	60 000	298
Wilmot .. ..	1971	251	30 600	127
Bell Bay (Stage 1) .. ..	1971	(d)	120 000	788
Cethana .. ..	1971	99	85 000	407
Paloona .. ..	1972	31	28 000	131
Fisher .. ..	1973	r 651	43 200	245
Bell Bay (Stage 2) .. ..	1974	(d)	120 000	788
Total .. ..	..	..	1 442 400	7 610
STATIONS UNDER CONSTRUCTION				
Gordon (Stage 1) .. ..	1977	186	288 000	1 466
Poatina (e) .. ..	1977	829	50 000	..
Mackintosh .. ..	1980	68	72 000	..
Rosebery .. ..	1982	63	76 500	..
Pieman .. ..	1984	93	270 000	..
Total .. ..	..	..	756 500	..

(a) Emergency gas turbine generating capacity: 20 000 kW at Bell Bay not included.

(b) Assessed annual capacity is based on simulated operation of the whole system for hydro-electric plant assuming that the supply level for Great Lake remains at 1 034 metres above sea level. The figures for thermal plant correspond to a capacity factor of 75 per cent.

(c) Reserve plant only.

(d) Thermal station.

(e) Additional generator to be installed in the existing station.

The concentration on water as a source of power in Tasmania has resulted in the need to follow a policy of water conservation, even though the rainfall is usually adequate. Emphasis in the power developments has been on the creation of large storages and multiple use of the impounded waters e.g. water from Lake St Clair may pass through eight power stations before reaching the tidal waters of the Derwent River at New Norfolk.

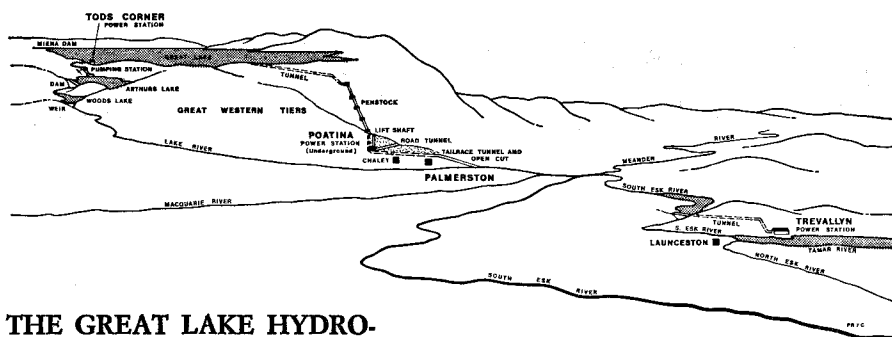
By May 1916 *Waddamana 'A'* station (7 000 kW), the first element of the Great Lake scheme, was commissioned. *Shannon* station was opened in 1934 and in 1944 the third element of the scheme, *Waddamana 'B'* station (48 000 kW) commenced generation. When *Poatina* station was commissioned in 1965, the *Waddamana 'A'* and *Shannon* stations were closed down, *Waddamana 'B'* being retained only for emergency and peak-load generation.

### Subsequent Developments

(i) The *Tarraleah* scheme, drawing water from the artificial Lake King William, was commenced in 1934; the early elements of *Tarraleah* station first generated power in 1938. The capacity of *Tarraleah* was progressively expanded to 90 000 kW and the station was completed in 1951 with the installation of a sixth generator. *Butlers Gorge* station (12 200 kW), the second element of the scheme, commenced generation on the completion of the Clark Dam in 1951.

(ii) Built to regulate run-off from the extensive area between Great Lake and Lake St Clair, the 32 400 kW *Lake Echo* and 125 000 kW *Tungatinah* stations were commissioned in 1956.

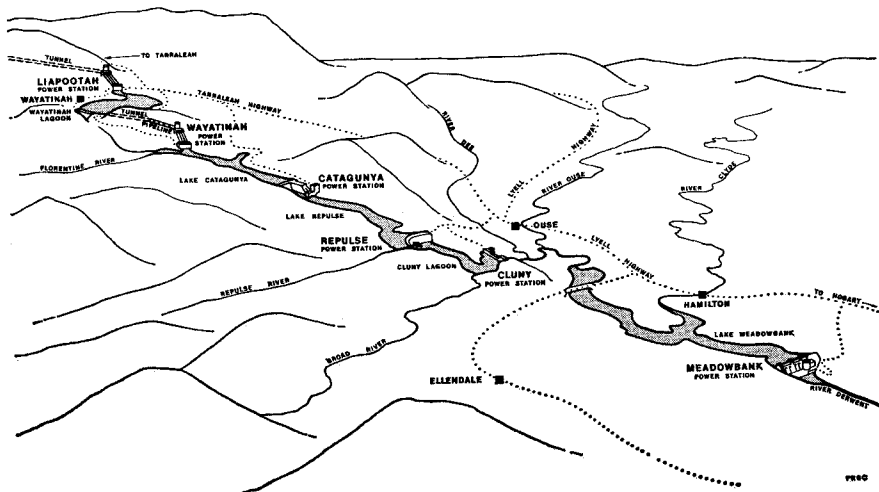
(iii) The *Poatina* station (250 000 kW), the largest of all the stations in the Tasmanian hydro-electric development, was completed in 1965. The station utilises the waters of Great Lake which have been diverted into the South Esk River system. A sixth generator of 50 000 kW capacity is to be commissioned in 1977 bringing the total installed capacity of the station to 300 000 kW. The *Poatina* tailrace discharges into the South Esk River which feeds the run-of-the-river *Trevallyn* station (80 000 kW) located near Launceston. The following diagram shows the Great Lake scheme in detail:



**THE GREAT LAKE HYDRO-ELECTRIC POWER DEVELOPMENTS**

(iv) Two systems, the Upper and Lower Derwent Schemes, utilise the combined waters of the Derwent and its major tributaries, the Nive and Florentine. In the Upper Derwent system the *Wayatinah* station (38 250 kW) was completed in 1957, followed by the 83 700 kW *Liapooteah* station (1960) and the 48 000 kW *Catagunya* station (1962). The lower Derwent stations *Meadowbank* (40 000 kW), *Cluny* (17 000 kW) and *Repulse* (28 000 kW) were completed during 1967 and 1968.

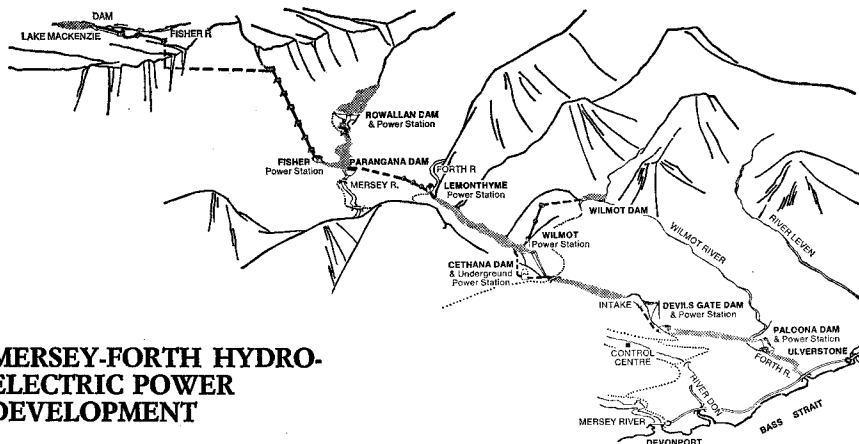
The following diagram shows the development of the power potential of the Derwent River catchment:



### DERWENT RIVER POWER DEVELOPMENTS

(v) Construction of the Mersey-Forth power scheme in north-western Tasmania was completed in 1973. As shown in the next diagram the Fisher, Mersey, Wilmot and Forth Rivers have been exploited by a combination of seven power stations, seven large dams and three major tunnels together with associated penstocks, canals and flumes.

On the Mersey River, Lake Rowallan is of major importance as it provides the main storage of the development as a whole and regulates the water flow to the down-stream stations. Water flows through the *Rowallan* (10 450 kW) station and downstream to the Parangana Dam.



### MERSEY-FORTH HYDRO-ELECTRIC POWER DEVELOPMENT

The second high-level storage in the scheme is derived from the development of Lake Mackenzie on the Fisher River. Water is taken by flume, canal, tunnel and pipeline to the *Fisher* (43 200 kW) station. Tailrace waters discharge into the Fisher River which joins the Mersey River just above the Parangana Dam. The Parangana Dam diverts waters of the Mersey and Fisher Rivers westwards by a tunnel and penstock to the *Lemonthyme* (51 000 kW) station on the Forth River.

The combined flows of all four rivers (Fisher, Mersey, Wilmot and Forth) are then used for power generation at three more power stations, all situated in the Forth Valley at the foot of dams at *Cethana* (85 000 kW), *Devils Gate* (60 000 kW) and *Paloona* (28 000 kW).

*Bell Bay Thermal Station:* Installation of the second stage of the Bell Bay oil-fired thermal station was completed in 1974. Power generation from the first stage commenced in February 1971. The station was originally designed to accommodate two steam driven 120 000 kW generators.

*Gordon River Power Development—Stage 1:* This development, to be completed by 1977, will create the largest water storage in Australia, seven to eight times the size of the Great Lake, and three times the size of Lake Eucumbene, the largest lake in the Snowy Mountains Scheme.

From Lake Gordon water will be carried by a near vertical shaft to a power station 186 metres underground. The station will be reached from the top by lift and from the Gordon River Road by tunnel. It is designed to be operated by remote control from Hobart, 161 kilometres away.

The map illustrates the Lake Pedder and Lake Gordon area in Tasmania, Australia. Key features include:

- Lakes:** Lake Gordon, Lake Pedder, Lake Edgar, and Lake Scott's Pier.
- Dams:** Gordon Dam, Serpentine Dam, and Scott's Pier Dam.
- Power Station:** Gordon Power Station (Underground).
- Mountains:** Mt. Field West, Mt. Mueller, Mt. Anne, Hamilton Range, Frankland Range, and Serpentine Range.
- Canal:** A canal connecting Lake Gordon and Lake Pedder.
- Roads:** A road leading to Hobart and another leading to Weymouth.
- Other Labels:** Strathgordon, McPartlan Pass, and Gordon R.
- Orientation:** A north arrow is located in the bottom right corner.

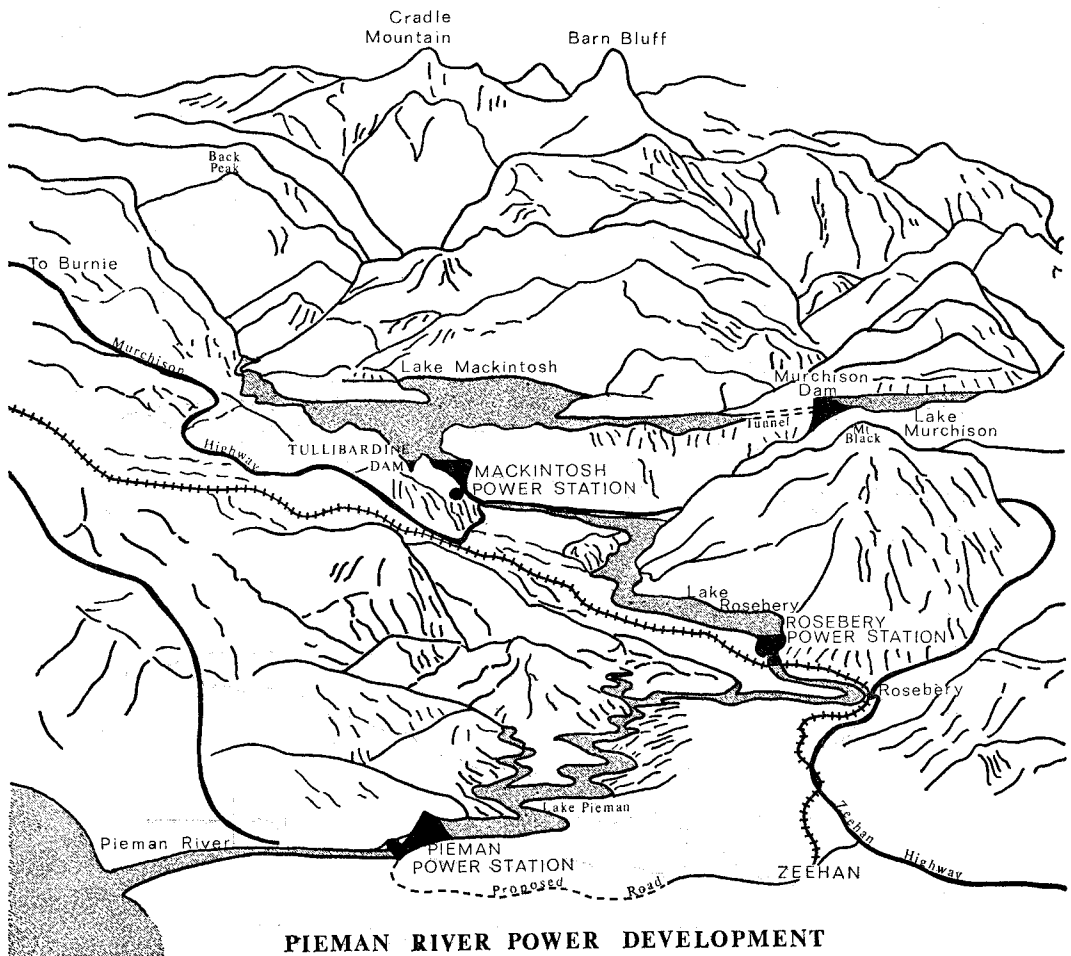
## GORDON RIVER POWER DEVELOPMENT

*Future Developments—Pieman River*

In a report presented to Parliament on 21 October 1970, the Hydro-Electric Commission announced a power development in the Pieman River catchment of the west coast. The total capital cost is estimated at \$134m; the total installed capacity at 418 500 kW; and the eventual average output at 1 770 million kilowatt hours per annum. Completion of the scheme is expected by 1985.

**Location:** The Pieman River flows from the confluence of the Murchison and Mackintosh Rivers, entering the sea below Corinna (see next diagram). The catchment area of 2 678 square kilometres is mostly rugged, mountainous Crown land, experiencing annual rainfall between 2 300 mm and 3 560 mm. Only two per cent (62 square kilometres) of the catchment area will be inundated.

**Power Stations:** (i) *Mackintosh.* The scheme includes: a dam over 91 metres high on the Murchison River; a 2 072 metres long tunnel from Lake Murchison to Lake Mackintosh; a dam 76 metres high on the Mackintosh River about three kilometres downstream from the Sophia River junction and the subsidiary Tullibardine Dam (24 metres high) together creating the main storage of the entire development; and a 72 000 kW power station below the Mackintosh Dam through which the combined flows of the Mackintosh and Murchison Rivers will pass.



PIEMAN RIVER POWER DEVELOPMENT

(ii) *Rosebery*. Includes: a dam about 73 metres high, located on the Pieman River upstream from the Rosebery township, creating a lake extending up the Mackintosh River to the Mackintosh Power Station and up to the Murchison River to just downstream of the Murchison Dam; a power station immediately below the Rosebery Dam, installed capacity, 76 500 kW; the relocation of two kilometres of the Murchison Highway including new bridges over the Murchison and Mackintosh Rivers; and the relocation of about three kilometres of the Emu Bay railway, including a new bridge over the Pieman River.

(iii) *Pieman*. Comprises: a dam about 119 metres high located on the Pieman River immediately upstream from its junction with Stringer Creek; a subsidiary dam 15 metres high; a 270 000 kW power station, located at the junction with Stringer Creek; and a main access road, 36.2 kilometres long, from Zeehan to the dam site, about 10 kilometres upstream from Corinna.

### Growth of Hydro-Electric System

The following table shows the growth of the system in recent years:

Hydro-Electric Commission: Operating Statistics

Year	Total rating of alternators	Peak loading	Average loading	Annual load factor (a)
	kW	kW	kW	per cent
1964 .. .. .	806 550	582 000	405 620	69.7
1965 .. .. .	807 550	593 700	427 580	72.0
1966 .. .. .	r 849 150	624 100	451 047	72.3
1967 .. .. .	866 150	636 900	445 490	69.9
1968 .. .. .	904 600	628 000	449 028	71.5
1969 .. .. .	1 015 600	735 500	556 249	75.6
1970 .. .. .	1 015 600	778 700	589 718	75.7
1971 .. .. .	1 251 200	r 842 900	633 838	r 75.2
1972 .. .. .	1 279 200	r 856 200	646 000	75.4
1973 .. .. .	1 322 400	891 100	667 822	74.9
1974 .. .. .	1 442 400	917 300	684 236	74.6

(a) Average annual loading as a percentage of annual peak loading.

### Load Factor

The alternator rating (i.e. generator capacity) is necessarily much higher than the peak loading since some generating plant must be held in reserve against the possibility of breakdown.

A power system must be designed to meet both the peak loading (the demand component) and the average loading (the energy component). Peak loading tends to represent high demand for relatively short periods, i.e. it has relatively little energy associated with it. The obvious design and operational problem is to create sufficient capacity to meet peak loading and, at the same time, to encourage the use of power so that the highest possible average loading is obtained.

All things being equal, the cheapest system, from the consumer's point of view, will be the one with the highest load factor. By world standards, the load factors in the previous table indicate a high standard of design and operational efficiency.

### The Hydro-Electric Commission

The Hydro-Electric Commission is an autonomous statutory authority, responsible almost entirely for the conduct of its own affairs. The 'Minister Administering the Hydro-Electric Commission Act' is answerable to Parliament for the



activities of the Commission, but the Commission is not directed by nor responsible to the Minister as is a government department. In other words, the Commission is envisaged as a trading or business organisation, and the purpose of the legislation that created it was to remove it from day-to-day political control. The power exerted by Parliament is mainly financial, not over the ordinary revenue and expenditure of the authority, but over the supply of loan moneys for new capital works.

Two other restrictions on the Commission can be listed: (i) it cannot change its tariff charges for the supply of electricity to consumers except with the approval of the Governor-in-Council; and (ii) in certain of its dealings, such as in real estate, the Commission must obtain the approval of the Minister.

The status of the Commission was described thus by the High Court of Australia in a judgment delivered in 1950: 'In the eye of the law the corporation is its own master and is answerable as fully as any other person or corporation. It is not the Crown and has none of the immunities or privileges of the Crown. Its servants are not civil servants and its property is not Crown property.'

### *Organisation*

Under the Commission, with its full-time Commissioner and three part-time Associate Commissioners, there are five branches:

(i) *Civil Engineering Branch*. Responsible for: survey of water resources; design and construction of all civil works involved in power development and allied projects.

(ii) *Electrical Engineering Branch*. Responsible for: studies of load growth and system development; design and construction of all electrical engineering works in conjunction with the Civil Engineering Branch.

(iii) *Power Branch*. Responsible for: operation and maintenance of completed power developments; generation and transmission of power in bulk.

(iv) *Retail Supply Branch*. Responsible for: distribution of electricity to consumers; operation and maintenance of the distribution system; inspection of installations and equipment; consumer advisory activities; sale of electrical appliances; licensing of wiremen and contractors.

(v) *Secretarial*. Responsible for general administrative business of the Commission with subsections dealing with accounts, law, personnel, transport, stores and purchasing, medical services, central records, public relations and other services.

## **Technical Details**

### *Generation*

The total installed generator capacity of the Commission's 22 power stations is 1 442 400 kW. All stations generate alternating current at a frequency of 50 cycles per second. The power is stepped up at each station to the voltage required for transmission.

### *Transmission*

Power is conveyed from the power stations by 220 000, 110 000 or 88 000 volt transmission lines to major sub-stations at various load centres. All power stations and major sub-stations are linked into a grid system thereby increasing the reliability of supply to all parts of the State.



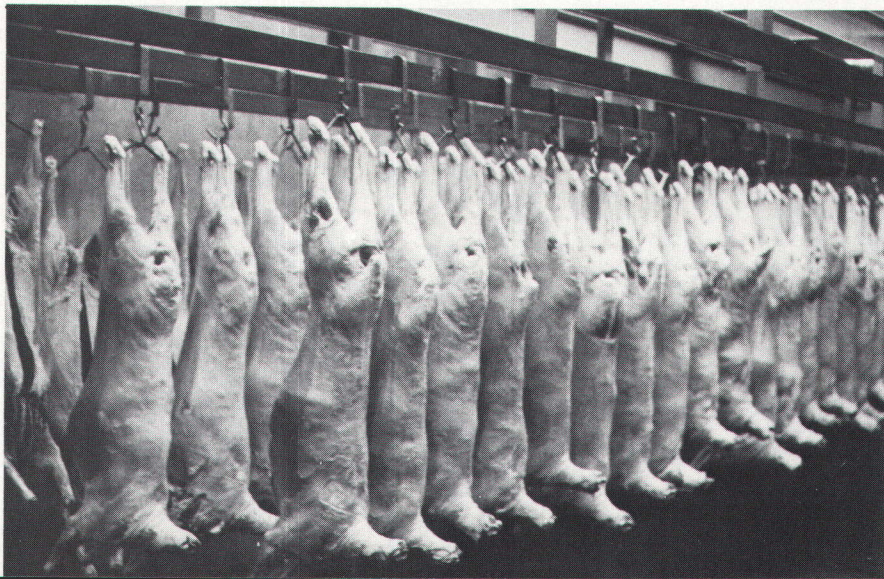


*Furnace being tapped at Tempco's Bell Bay plant*

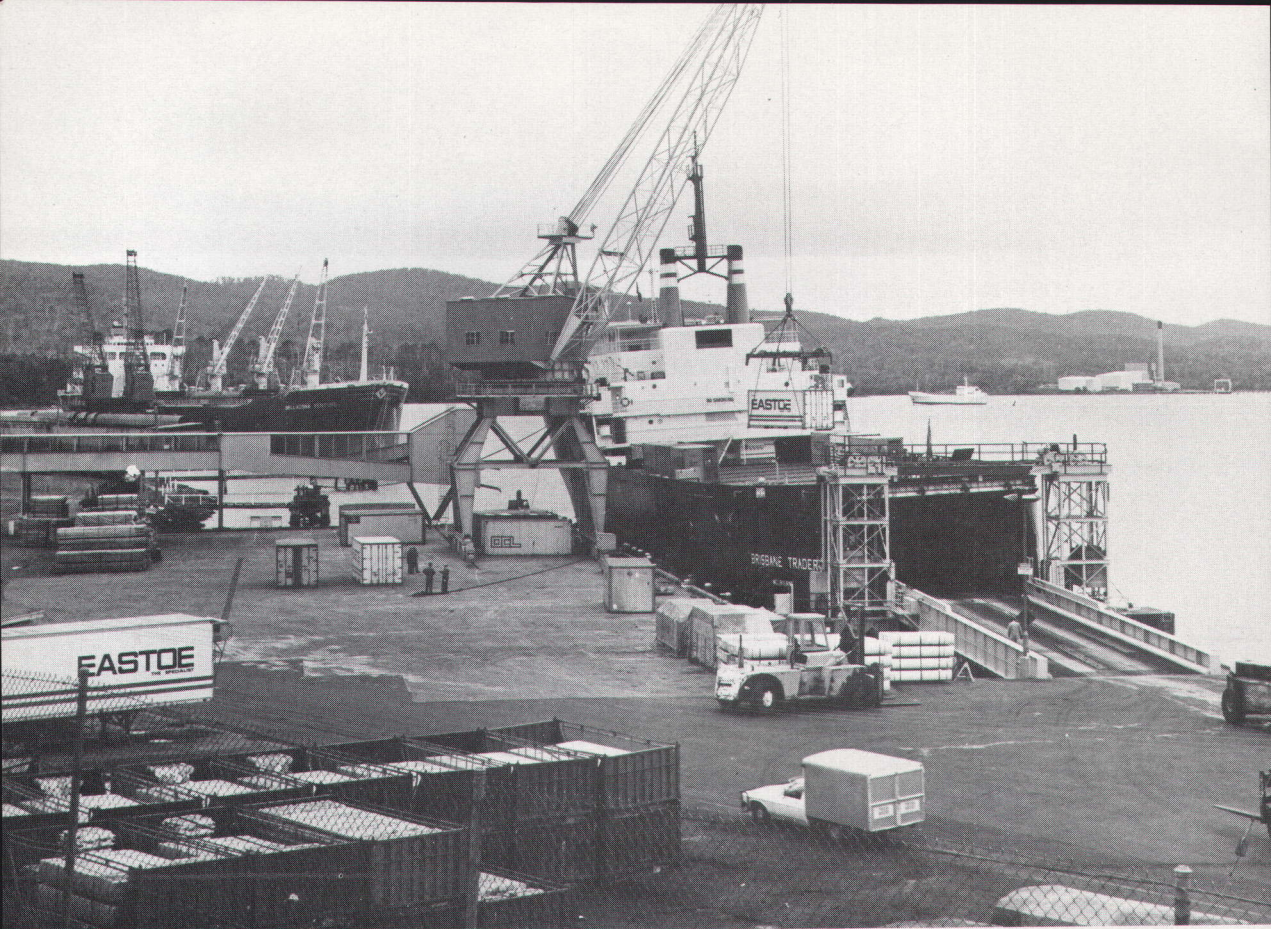
*[Dept of Film Production]*

*Lamb carcasses, Smithton abattoirs*

*[United Milk Products Ltd]*







*The Port of Bell Bay*

*[Dept of Film Production]*

*Fire in the Macquarie No. 6 Wharf, Hobart*

*[Dept of Film Production]*





*Distribution*

Power is distributed from the major sub-stations by a network of 44 000, 33 000, 22 000, 11 000 and 6 600 volt feeder lines from which power is stepped down at zone sub-stations to a lower feeder voltage and/or finally at distribution sub-stations to 415/240 volts for supply to individual consumers. Some consumers take supply at feeder voltage.

Bruny Island is connected to the main power supply by a submarine cable; King and Flinders Islands are partly supplied by diesel-generation stations operated by the Commission at Currie and Whitemark respectively.

*Retail Distribution*

In the early days of the Commission's operation, consumers of electrical power received it from three sources: from municipalities with their own generating capacity; from municipalities retailing power bought from the Commission; and from the Commission direct. Gradually uniformity was achieved, municipalities stopped generating and retailing and the one authority became the sole supplier, both of bulk power to industry and retail power to homes, shops, businesses, etc. One effect has been uniformity in tariff charges for retail power so that the farmer on the most remote holding is charged no more than dwellers in the principal cities. Tasmania has achieved an Australian record figure for distribution of electrical power—it is estimated that nearly 99 per cent of homes and farms are now connected. Tariff charges are also the lowest in Australia.

**Finances of Hydro-Electric Commission**

The table that follows shows the Commission's income and expenditure:

**Hydro-Electric Commission: Income and Expenditure**  
(£'000)

Particulars	1970-71	1971-72	1972-73	1973-74
<b>INCOME</b>				
Sales—Bulk power ..	17 168	18 549	20 053	21 581
Retail current ..	22 540	26 376	28 683	30 136
Other income .. ..	443	1 361	775	1 013
<b>Total .. ..</b>	<b>40 151</b>	<b>46 286</b>	<b>49 511</b>	<b>52 730</b>
<b>EXPENDITURE</b>				
Operation, distribution, administration .. ..	15 236	16 700	16 589	19 385
Interest on loans and reserves .. ..	22 350	25 213	27 369	28 899
Less interest capitalised ..	—4 044	—4 106	—3 657	—5 298
Depreciation provision ..	4 544	5 255	5 505	5 760
Superannuation contribution and retirement benefits .. ..	1 398	1 644	1 662	2 968
Contribution to consolidated revenue .. ..	..	804	1 251	1 362
Other expenditure ..	586	768	578	950
Net profit or loss ..	81	8	214	—1 296
<b>Total .. ..</b>	<b>40 151</b>	<b>46 286</b>	<b>49 511</b>	<b>52 730</b>

All annual charges (interest, depreciation, operation, etc.) are borne by the Commission out of its revenue from the sale of electricity. There are no subsidies or other contributions from general State revenue.

### Sales and Prices of Electric Power

The following table shows comparative average prices for power in Australia:

**Price of Electric Power: Tasmania and Other States, 1973-74 (a)**  
(Cents per Kilowatt Hour)

State or territory	Residential sales	Commercial sales	Industrial sales	Average all sales (b)
New South Wales ..	2.24	(c)	(c)	2.17
Victoria .. .. .	2.22	3.36	1.80	2.26
Queensland .. ..	2.38	3.76	1.88	2.47
South Australia ..	1.82	2.94	1.64	2.03
Western Australia ..	2.60	(c)	(c)	2.49
<b>Tasmania</b> .. ..	<b>1.68</b>	<b>2.99</b>	<b>0.73</b>	<b>0.96</b>
Territories .. ..	2.84	(c)	(c)	2.89
<b>Australia (average) ..</b>	<b>2.21</b>	<b>n.a.</b>	<b>n.a.</b>	<b>2.12</b>

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

It will be observed that the Tasmanian average is the *lowest* and the householder pays less per unit on the average than his counterpart on the Australian mainland. The economy of hydro-electric generation can be best obtained by comparing the prices charged to industrial users.

The following table shows the amount of power sold in Australia:

**Sales of Electric Power: Tasmania and Other States, 1973-74 (a)**  
(Million Kilowatt Hours)

State or territory	Residential sales	Commercial sales	Industrial sales	Total sales (b)
New South Wales ..	7 663	(c) 12 040		20 271
Victoria .. .. .	5 183	2 346	5 302	13 202
Queensland .. ..	2 652	1 226	2 551	6 474
South Australia ..	1 783	781	1 679	4 276
Western Australia ..	1 177	(c) 1 662		2 876
<b>Tasmania</b> .. ..	<b>1 016</b>	<b>122</b>	<b>4 217</b>	<b>5 373</b>
Territories .. ..	514	(c) 720		1 259
<b>Australian total ..</b>	<b>19 988</b>	<b>(c) 32 646</b>		<b>53 730</b>

(a) Source: 'Statistics of the Electricity Supply Industry in Australia' (published by the Electricity Supply Association of Australia).

(b) Includes power for traction, public lighting, etc. not specified in first three columns.

(c) Not recorded separately.

## Chapter 10

### TRADE AND DISTRIBUTION

#### OVERSEAS AND INTERSTATE TRADE

##### Historical

The *Statistical Returns of Van Diemen's Land* and the *Statistics of Tasmania* provide a continuous series of total trade statistics dating from 1824 to 1909. Until the foundation of the Commonwealth in 1901, trade with other parts of Australia was recorded as originating from or being destined for 'British Colonies'; in other words, all Tasmanian sea trade was regarded as overseas. From Federation to 1909, statistics were collected and compiled by the newly formed federal Customs Department for *all* sea trade, but since 1910 only direct *overseas* trade has been recorded by the Customs Department. In an island state, it became apparent that statistics of overseas trade alone were inadequate to record economic activity and, from 1922-23, the Government Statistician collected and published details of interstate trade; the collection of these data, now undertaken by the State Office of the Australian Bureau of Statistics, is carried out independently of the Customs Department and depends primarily on documents made available by Tasmanian port authorities. In brief, there is a *total* trade series (1824-1909), an *overseas* trade series (1910 to 1921-22) and a *total* trade series (1922-23 to today).

In the immediate post-war period, there was a marked expansion of commercial aviation; the freight being carried was a component of interstate trade and steps were taken to record it, the first published figures appearing for 1949-50. Thus, the total trade of Tasmania is now recorded in three categories: by sea, overseas; by sea, interstate; by air, interstate.

##### Value of Trade from 1824

##### *Note on Currency*

The pre-Federation details were recorded in sterling; subsequent details were recorded in £A which had parity with sterling until 1930 when devaluation made £A1.25 equal to the £ sterling. In 1949 the £ sterling was devalued by 30.5 per cent and the £A was correspondingly devalued to preserve the 1930-1949 relativity. In 1966 Australia changed to decimal currency, with \$A equal to £A0.5. In late 1967, the £ sterling was devalued from an equivalency of \$A2.51 to \$A2.15. The \$A was devalued by approximately 2.25 per cent against the £ sterling in 1971. The exchange rate between the \$A and the £ sterling is no longer fixed and from December 1971 the \$A has been quoted in terms of \$U.S. Later changes in the exchange rate appear in chapter 12, Private Finance. In the tables in this section, pre-1966 recorded figures have been converted to \$A by simply doubling the originals, *irrespective of their year of occurrence* and no account has been taken of changes in exchange rates. Post 1966 figures similarly have not been adjusted to take account of changes in exchange rates.

Due to considerable and persistent changes in the purchasing power of money, it is extremely difficult to satisfactorily interpret any long-term statistical series expressed in money terms. The following table is therefore of interest historically but subject to all the disabilities (including changes in the value of Australian currency) associated with long-term money series:

**Total Value of Trade by Sea and Air: Historical Summary**  
(\\$'000)

Year	Value of imports				Value of exports			
	By sea		By air	Total	By sea		By air	Total
	Overseas	Interstate	Interstate		Overseas	Interstate	Interstate	
1824 .. ..	<i>n.a.</i>	<i>n.a.</i>	..	124	<i>n.a.</i>	<i>n.a.</i>	..	30
1860 .. ..	1 686	450	..	2 136	1 544	380	..	1 924
1880 .. ..	738	2 000	..	2 738	1 568	1 456	..	3 024
1900 .. ..	1 402	2 746	..	4 148	3 078	2 144	..	5 222
1910 .. ..	1 662	(a)	..	<i>n.a.</i>	1 040	(a)	..	<i>n.a.</i>
1919-20 ..	1 626	(a)	..	<i>n.a.</i>	4 022	(a)	..	<i>n.a.</i>
1929-30 ..	3 668	16 028	..	19 696	4 978	13 198	..	18 176
1939-40 ..	3 188	21 780	..	24 968	4 852	20 954	..	25 806
1949-50 ..	18 704	51 218	(b)10 670	80 592	29 936	42 672	(b) 3 996	76 604
1959-60 ..	27 606	130 014	19 210	176 830	47 730	137 530	20 818	206 078
1969-70 ..	(c)46 998	257 441	20 551	(c)324 989	143 470	286 083	26 287	455 840
1973-74 ..	69 277	357 805	24 760	451 843	259 745	404 382	34 566	698 692

(a) Collection discontinued for period 1910 to 1921-22.

(b) First collected in 1949-50.

(c) From 1965-66 the value of outside packages is included in the value of overseas imports. The recorded value of these outside packages was \$566 000 in 1969-70 and \$562 000 in 1973-74.

**Definition of 'Overseas' and 'Interstate'**

Statistics of overseas trade of Tasmania include details of goods landed directly from overseas or shipped directly to overseas ports; and, in addition, details of goods transhipped through other Australian states, *provided that the overseas import or export document has been lodged with Customs in Tasmania*. Statistics of interstate trade include details of goods landed in or shipped from other Australian states; and, in addition, details of goods transhipped through other Australian states, *provided that the overseas import and export document has been lodged with Customs in another Australian state*.

By way of example, a new Japanese car transhipped in Melbourne and discharged in Tasmania is classified as an item of interstate trade. Victoria, not Japan, is classified as the place of origin, provided that the overseas import document has been lodged with Customs in Victoria.

*Effect of Motor Vehicles on Total Value of Imports and Exports*

Import and export details of motor cars and commercial vehicles include tourist vehicles entering and leaving the State. The inauguration of a vehicular ferry service in October 1959 resulted in a sharp increase in the transport of vehicles as is suggested in the following table.

**Motor Cars and Commercial Vehicles (a): Value of Imports and Exports**  
(\\$'000)

Particulars	1959-60	1969-70	1970-71	1971-72	1972-73	1973-74
Imports ..	29 148	54 191	59 062	63 016	64 943	75 231
Exports ..	13 100	25 998	27 087	28 229	28 537	28 997

(a) As well as new and used vehicles, includes business and tourist vehicles moving to and from the State.



Since Tasmanians do not carry out motor vehicle assembly on any extensive scale (and certainly not for export), it follows that total import and export values for 1973-74 are both inflated by approximately \$29m worth of vehicles, principally tourist, which entered and left the State. If vehicle exports are offset against imports, the net import figure will still include some used as well as new vehicles.

### Source of Trade Statistics

*Overseas* trade statistics are compiled from documents obtained under the *Federal Customs Act* 1901 and supplied to the Australian Bureau of Statistics by the Department of Customs and Excise. *Interstate sea* trade statistics are compiled from documents required under the authority of the *Marine Act* 1921 and made available to the Tasmanian Office of the Bureau by the various port authorities. Statistics of *interstate air* trade are compiled from returns furnished direct to the Tasmanian Office of the Bureau by all those who use this medium for the transportation of goods in commercial or industrial operations.

### Values

The cost of importing goods into any country will theoretically contain four elements: (i) the 'original' price at door of factory, warehouse, etc.; (ii) the cost of delivering goods to the ship 'free on board'; (iii) sea freight and associated charges between ports; and (iv) cost of delivery from port to buyer.

Trade statistics base values on the first two elements but exclude the third and fourth as set out in the following definitions:

The basis of value for overseas imports is 'transaction value, actual (*f.o.b.*)' or 'domestic value (*f.o.b.*)' if higher. Overseas exports are valued *f.o.b.* at the Australian port of shipment as follows: (i) for goods sold before export—the price at which the goods were sold; or (ii) for goods shipped on consignment—the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods were despatched. Interstate imports and exports are valued *f.o.b.* at the port of shipment.

### Tasmanian Ports

Although there are seven port authorities (usually called marine boards) in Tasmania, overseas trade is restricted to the ports of Hobart, Launceston, Burnie, Devonport and Stanley. (Exports of iron ore from Port Latta are credited to Stanley and exports of woodchips from Spring Bay are credited to Hobart.) The names of ports in subsequent tables refer to the towns in which the controlling port authorities are located. Thus 'Hobart' includes Port Huon, Spring Bay, Howden and Strahan; 'Launceston' includes Bell Bay, Beauty Point, Inspection Head and Long Reach; 'Stanley' includes Port Latta; 'Currie' includes Naracoopa and Grassy; and 'Lady Barron' includes Whitemark.

This chapter deals only with the imports and exports passing through these ports. For a description of the major ports and for the financial operations of the port authorities, see chapter 11.

### Total Trade of Tasmania

The following table shows Tasmanian total trade and its components in recent years. It will be observed that interstate trade is the major element both in imports and exports.

**Total Trade**  
**(\$'000)**

Year		Imports				Exports			
		By sea		By air	Total imports	By sea		By air	Total exports
		Overseas	Interstate	Interstate		Overseas	Interstate	Interstate	
1968-69	..	37 509	241 398	21 051	299 958	102 061	265 476	25 825	393 362
1969-70	..	46 998	257 441	20 551	324 989	143 470	286 083	26 287	455 840
1970-71	..	45 719	269 022	19 777	334 519	143 198	277 669	27 103	447 970
1971-72	..	39 749	281 576	20 622	341 947	178 950	302 608	29 374	510 932
1972-73	..	45 045	289 862	21 238	356 145	218 712	320 910	30 626	570 247
1973-74	..	69 277	357 805	24 760	451 843	259 745	404 382	34 566	698 692

The next table shows the balance of trade (excess of exports over imports):

**Balance of Trade (Sea and Air)**

Year	Balance of trade (excess of exports)		Year	Balance of trade (excess of exports)	
	Total (\$'000)	Per head of mean population (\$)		Total (\$'000)	Per head of mean population (\$)
1962-63 .. ..	30 324	84.66	1968-69 .. ..	93 404	244.23
1963-64 .. ..	52 496	144.71	1969-70 .. ..	130 851	338.74
1964-65 .. ..	78 957	215.51	1970-71 .. ..	113 451	291.46
1965-66 .. ..	72 926	197.31	1971-72 .. ..	168 985	430.64
1966-67 .. ..	58 347	156.31	1972-73 .. ..	214 102	542.17
1967-68 .. ..	51 845	137.37	1973-74 .. ..	246 850	618.67

**Overseas Trade by Sea**

Details of Tasmania's trade with overseas countries for the past six years are shown in the following table:

**Total Value of Trade by Sea With Overseas Countries**  
**(\$'000)**

Year	Value of imports from—				Value of exports to—			
	United Kingdom	United States of America	Japan	Other overseas countries	United Kingdom	United States of America	Japan	Other overseas countries
1968-69 ..	8 705	5 629	5 708	17 467	17 267	16 216	24 362	44 216
1969-70 ..	10 563	6 636	5 309	24 490	24 363	19 945	43 465	55 697
1970-71 ..	6 098	7 269	5 419	26 933	20 574	18 427	54 999	49 198
1971-72 ..	6 878	4 655	5 049	23 167	29 580	27 062	55 997	66 312
1972-73 ..	6 000	5 986	7 003	26 056	23 918	35 434	75 231	84 129
1973-74 ..	10 237	8 930	12 462	37 648	19 514	46 819	104 880	88 532

Up to 1967-68, the United Kingdom was Tasmania's principal trading partner but, from 1968-69, the value of exports to Japan and, from 1972-73, to the U.S.A., exceeded the value of exports to the United Kingdom. In 1972-73 the value of imports from New Zealand exceeded, for the first time, the value of imports from any other country. However, in 1973-74 Japan, followed by the United Kingdom, U.S.A. and Canada, became Tasmania's major overseas suppliers of imports.

### Trade with Selected Countries

The principal countries of origin together with values (in \$m) for overseas imports shipped direct to Tasmania in 1973-74 were: Japan, 12.5; United Kingdom, 10.2; Canada, 8.9; U.S.A., 8.9; New Zealand, 8.3; Taiwan, 1.9; Sweden, 1.8; Iran, 1.8. The principal countries of destination for overseas exports shipped direct from Tasmania (value in \$m) were: Japan, 104.9; U.S.A., 46.8; United Kingdom, 19.5; India, 7.5; Indonesia, 7.2; Thailand, 7.1; Taiwan, 5.7; U.S.S.R., 5.5; France, 4.7; Yugoslavia, 4.7; Federal Republic of Germany, 4.5; Hong Kong, 4.4.

### Trade With Overseas Countries (\$'000)

Country of origin or destination	Imports (a)			Exports		
	1971-72	1972-73	1973-74	1971-72	1972-73	1973-74
Belgium-Luxembourg ..	227	180	170	1 952	2 900	1 585
Canada .. .. .	3 778	4 341	8 866	497	505	1 971
China, People's Republic of	65	83	75	6 099	1 789	622
Denmark .. .. .	117	141	298	542	819	1 452
France .. .. .	606	177	235	3 251	4 848	4 742
Germany, Dem. Republic of	20	2	6	28	1 518	36
Germany, Federal Republic	1 174	873	1 733	3 280	6 579	4 488
Hong Kong .. .. .	400	616	929	5 356	4 313	4 448
India .. .. .	88	39	98	5 744	6 128	7 518
Indonesia .. .. .	1	..	..	2 945	3 858	7 195
Iran .. .. .	304	874	1 841	1 511	1 701	1 665
Italy .. .. .	972	431	757	2 375	2 854	3 022
Japan .. .. .	5 049	7 003	12 462	55 997	75 231	104 880
Korea .. .. .	..	16	1 373	135	193	3
Malaysia .. .. .	18	18	41	4 278	5 403	4 738
Nauru .. .. .	317	639	1 041	..	..	20
Netherlands .. .. .	328	546	355	2 167	2 683	2 847
New Zealand .. .. .	5 801	7 732	8 252	2 033	2 033	2 895
Philippines .. .. .	1	2	119	1 662	1 965	3 714
Poland .. .. .	10	11	14	745	2 647	1 711
Singapore .. .. .	961	1 714	926	2 660	2 899	3 267
Sweden .. .. .	1 538	1 502	1 765	1 133	1 482	1 994
Taiwan .. .. .	229	507	1 893	2 745	4 248	5 715
Tanzania .. .. .	..	21	..	1 999	1 491	925
Thailand .. .. .	3	5	6	6 833	7 040	7 086
United Kingdom .. .. .	6 878	6 000	10 237	29 580	23 918	19 514
U.S.A. .. .. .	4 655	5 986	8930	27 062	35 434	46 819
U.S.S.R. .. .. .	..	12	14	351	5 472	5 517
Yugoslavia .. .. .	9	1	3	1 724	3 549	4 707
Other countries .. .. .	6 085	5 505	6 784	4 250	5 203	4 598
'For orders' (b) .. .. .	..	..	..	16	9	51
Origin unknown .. .. .	56	51	41	..	..	..
Australia (re-imported) ..	59	17	13	..	..	..
Total .. .. .	39 749	45 045	69 277	178 950	218 712	259 745

(a) Value of outside packages included: 1971-72, \$460 000; 1972-73, \$407 000; 1973-74, \$562 000.

(b) Country of consignment not determined at the time of export.

The table above shows the trade of Tasmania with selected overseas countries; countries selected are those for which imports or exports approached or exceeded \$1m in any one of the three years under review, with the exception of countries for which figures are confidential. It should be noted that some goods are received from, or sent to, overseas countries by transshipment through other Australian states; no data are available on such transactions.

### Tasmanian and Australian Overseas Trade

The following table compares Australia's total overseas imports and exports with the corresponding values for Tasmania; by using a per capita comparison, certain conclusions can be drawn about the relative importance of Tasmania's overseas exports bearing in mind that Tasmania's figures are understated and Australia's correspondingly inflated in respect of transshipments not recorded as overseas trade for Tasmania.

Value of Overseas Trade: Tasmania and Australia

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
IMPORTS					
Australia—Total .. \$'000	3 881 227	4 150 028	4 008 365	r 4 120 727	6 085 004
Per head .. \$	r 312.9	327.9	310.8	315.0	458.6
Tasmania—Total .. \$'000	46 998	45 719	39 749	45 045	69 277
Per head .. \$	r 121.5	117.3	101.3	114.1	173.6
EXPORTS					
Australia—Total .. \$'000	4 137 222	4 375 757	r 4 893 368	r 6 213 704	6 913 746
Per head .. \$	333.5	345.7	r 379.4	474.9	521.1
Tasmania—Total .. \$'000	143 470	143 198	178 950	218 712	259 745
Per head .. \$	r 371.0	r 367.5	456.0	553.8	651.0

The relatively low value of overseas imports per head of Tasmanian population is due largely to the transshipment of goods in other Australian ports. Since some goods go overseas from Tasmania by transshipment and are therefore *not* recorded as Tasmanian overseas exports, the export comparisons *per head* of Australian and Tasmanian populations suggest that the State plays an important role as an earner of export income.

### Interstate Trade by Air

No data are compiled to show state of origin or state of destination for trade by air; most planes carrying commercial freight, to and from Tasmania, take off from or land in Victoria. The following is a summary of Tasmania's air trade for recent years:

Value of Interstate Air Trade  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Imports .. ..	20 551	19 777	20 622	21 238	24 760
Exports .. ..	26 287	27 103	29 374	30 626	34 566
Total .. ..	46 838	46 880	49 996	51 864	59 327

## Interstate Trade by Sea

As might be expected with Melbourne being the closest major port to Tasmania, the bulk of the island's interstate trade is transacted with Victoria. The next table shows the value of interstate sea trade with other Australian states. Imports include the value of some goods imported into other states from overseas and transhipped to Tasmania; exports include the value of some goods exported to other states for transhipment overseas.

Value of Interstate Sea Trade  
(\$'000)

Australian state or territory of origin or destination	Imports			Exports		
	1971-72	1972-73	1973-74	1971-72	1972-73	1973-74
New South Wales .. ..	39 873	44 133	52 961	111 925	116 849	133 763
Victoria .. ..	206 844	207 347	257 220	166 729	176 241	230 357
Queensland .. ..	(a) 14 433	(a) 14 802	(a) 18 493	9 822	11 236	13 881
South Australia .. ..	16 860	22 179	28 379	10 818	13 757	19 554
Western Australia .. ..	3 567	1 401	752	3 297	2 804	5 803
Northern Territory .. ..	n.p.	n.p.	n.p.	18	23	1 023
Total .. ..	281 576	289 862	357 805	302 608	320 910	404 382

(a) Includes the value of manganese ore imported from the Northern Territory. Details are not available for separate publication.

## Sea Trade of Tasmanian Ports

In the following table, the value of total imports and exports by sea is shown for each port:

Total Value of Sea Trade Classified According to Port  
(\$'000)

Port	Imports		Exports		Total sea trade	
	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74
Burnie .. ..	56 250	72 338	125 351	161 425	181 601	233 763
Devonport .. ..	81 559	97 374	82 237	102 539	163 796	199 912
Hobart .. ..	98 730	125 863	189 155	228 269	287 885	354 133
Currie .. ..	1 052	2 518	1 607	7 801	2 659	10 319
Launceston .. ..	97 048	125 173	111 750	136 795	208 798	261 969
Stanley .. ..	193	3 745	27 950	25 218	28 143	28 963
Lady Barron .. ..	74	71	1 572	2 078	1 646	2 150
Total .. ..	334 907	427 082	539 622	664 126	874 529	1 091 208

The decline in the proportion of sea trade attributed to Hobart since 1958-59 is related to the increased use of 'sea-road' facilities available through the ports of Devonport, Launceston and Burnie. The vessels involved in the 'sea-road' service to northern and north-western ports are the *Melbourne Trader* and *Empress of Australia*. The *Princess of Tasmania*, which inaugurated this type of service between Melbourne and Devonport in October 1959, was replaced by the *Empress of Australia* in June 1972, and the *Melbourne Trader* replaced the *Bass Trader* in March 1975. In June 1964 similar facilities became available at Hobart when the *Seaway Queen* began a 'sea-road' service to Melbourne, followed in

September 1964 by the *Seaway King* operating a direct service to Sydney. These two vessels provided regular Melbourne-Hobart and Sydney-Melbourne-Hobart services until July 1975 when the new vessel *Seaway Prince* replaced the *Seaway Queen*. Another vessel, the *Seaway Princess*, which was under construction in 1975, was expected to replace the *Seaway King* in early 1976. The *Empress of Australia*, which had provided a regular service since January 1965 with Sydney-Hobart-Sydney as one route and Sydney-Bell Bay-Burnie-Sydney as the other, was withdrawn in April 1972 for re-fitting prior to replacing the *Princess of Tasmania* on the Bass Strait run. The *Empress of Australia* was replaced immediately by the *Australian Trader* which had served northern ports regularly since mid-1969. Both these vessels also provide overnight accommodation for passengers. In October 1971 another roll-on roll-off type vessel, the *Mary Holyman*, commenced a regular service between South Australia and Tasmania with Port Adelaide-Hobart as one route and Port Adelaide-Burnie as the other. In January 1973 the *Darwin Trader*, a bulk carrier-container vessel, inaugurated a regular service with Darwin-Launceston as one route, carrying bulk manganese ore, and Hobart-Darwin, via Melbourne, Sydney and Brisbane, with containers and general cargo, as the other. Several other vessels (e.g. *Sydney Trader*, *Brisbane Trader*, *Townsville Trader*) provide, as required, irregular sea-road services between the four main Tasmanian ports and other Australian states.

In May 1972 the *Straitsman* commenced a regular Melbourne-Grassy-Stanley service. This service ceased in June 1972 when the *Straitsman* was tied up and later arrested. The Tasmanian Transport Commission purchased the vessel in July 1973 and recommenced the service in October 1973. On 23 March 1974 the *Straitsman* rolled over and sank in the River Yarra. As temporary replacement for this vessel the Commission chartered the general cargo vessel *Alban* from the Netherlands and the livestock carrier *Ida Clausen* from Denmark. The Commission also purchased the Finnish vessel *Ra* (later renamed *Rah*) which was modified in Europe and commenced a regular Melbourne-Grassy-Stanley service in December 1974.

The next table compares the proportion of total sea trade values attributed to each port (using 1958-59 for comparison):

**Total Value of Sea Trade: Port Proportions**  
(Per Cent)

Port	1958-59	1969-70	1970-71	1971-72	1972-73	1973-74
Burnie .. .. .	15.3	20.2	21.9	21.7	20.8	21.4
Devonport .. .. .	6.8	17.5	16.2	16.5	18.7	18.3
Hobart .. .. .	50.8	32.9	(a) 32.0	33.6	32.9	32.5
Currie .. .. .	0.5	1.3	1.7	1.3	0.3	0.9
Launceston .. .. .	23.5	22.6	24.4	23.4	23.9	24.0
Stanley .. .. .	0.6	3.9	3.8	3.4	3.2	2.7
Strahan .. .. .	2.4	1.5	(b) ..	..	..	..
Lady Barron .. .. .	..	0.1	0.1	0.1	0.2	0.2
Total .. .. .	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Strahan from 1 October 1970.

(b) July to September 1970 only; on 1 October 1970 the port of Strahan came under the control of the Marine Board of Hobart.

### Air Trade of Tasmanian Airports

Although Tasmania has a number of airports, only six are used on a regular basis for interstate trade and of these, two accounted for 88 per cent of total air trade in 1973-74. Launceston's airport accounted for 58 per cent of the total

value of air trade in 1973-74 while Hobart's airport accounted for a further 30 per cent. The following table shows the value of interstate air trade passing through Tasmanian airports:

**Total Value of Interstate Air Trade Classified According to Airport**  
(*\$'000*)

Airport	Imports		Exports		Total air trade	
	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74
Hobart .. .. .	10 306	12 434	4 258	5 387	14 564	17 822
Launceston .. .. .	6 351	7 439	24 589	27 041	30 940	34 480
Devonport .. .. .	1 646	1 672	269	550	1 915	2 222
Wynyard (a) .. .. .	2 039	2 128	242	262	2 282	2 390
King Island .. .. .	561	696	1 048	1 060	1 609	1 755
Flinders Island .. .. .	336	391	219	267	556	658
Total .. .. .	21 238	24 760	30 626	34 566	51 864	59 327

(a) Includes Smithton.

### *Commodities Carried by Air*

It will be observed that the value of trade by air is about five per cent of the value of total overseas and interstate trade by sea and air combined. In 1973-74 the total value of air trade to and from Tasmania was \$59.3m compared to the total value of sea trade of \$1 091.2m. With regard to exports by air (valued at \$34 566 000 in 1973-74), the major group was 'textiles and yarns' valued at \$31 467 000; exports of all foodstuffs (meat, rock lobster, fruit, etc.) accounted for a further \$1 608 000. For imports there is a much greater range of commodities involved, the chief group being 'clothing and footwear' valued at \$14 898 000.

The annual values of both imports and exports by air have not increased greatly over the past 10 years, which means that the quantities of goods involved have almost certainly declined because of the general increase in prices over the period. A possible explanation is the improvement in sea carriage techniques (roll-on roll-off vessels, container vessels, etc.) and improved shipping schedules.

The following table shows the value of imports to and exports from Tasmania by air for the past 10 years:

**Air Trade: Value of Interstate Imports and Exports**  
(*\$'000*)

Year	Imports	Exports	Year	Imports	Exports
1964-65 .. .. .	20 819	25 770	1969-70 .. .. .	20 551	26 287
1965-66 .. .. .	21 123	25 575	1970-71 .. .. .	19 777	27 103
1966-67 .. .. .	20 311	25 680	1971-72 .. .. .	20 622	29 374
1967-68 .. .. .	20 590	26 941	1972-73 .. .. .	21 238	30 626
1968-69 .. .. .	21 051	25 825	1973-74 .. .. .	24 760	34 566

### **Imports of Principal Commodities**

The next table shows the value of the principal commodities imported into Tasmania by sea and air for a four-year period:



**Imports of Principal Commodities by Sea and Air: Values**  
(£'000)

Commodity	1970-71	1971-72	1972-73	1973-74
Beer, wine and spirits .. .. .	4,313	3 908	4 052	4 400
Aluminium oxide and hydroxide .. .. .	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Clothing and accessories .. .. .	13 478	15 119	16 515	19 704
Cocoa beans and cocoa butter .. .. .	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Confectionery .. .. .	3 782	3 705	3 467	4 082
Footwear .. .. .	3 767	3 779	3 983	4 408
Machinery—Electrical .. .. .	14 663	12 668	12 091	14 817
Other .. .. .	19 580	21 807	24 309	33 296
Metal manufactures .. .. .	8 355	7 920	7 893	9 134
Metals .. .. .	14 864	15 683	15 274	20 050
Motor vehicles—New .. .. .	<i>r</i> 32 800	<i>r</i> 35 321	<i>r</i> 37 428	47 389
Other (a) .. .. .	<i>r</i> 26 495	<i>r</i> 27 938	<i>r</i> 27 902	28 805
Ores and concentrates—Zinc .. .. .	7 594	9 341	12 856	20 330
Other .. .. .	3 686	5 995	3 930	4 434
Paper and paper manufactures .. .. .	8 000	7 300	7 474	11 215
Petroleum products—Motor spirit .. .. .	8 335	8 495	9 527	10 653
Fuel oils .. .. .	12 059	11 605	12 210	12 445
Other .. .. .	7 221	7 106	7 521	8 263
Pulp for paper-making .. .. .	10 619	9 190	10 354	12 348
Rubber manufactures .. .. .	5 114	5 273	5 448	6 574
Sugar, refined .. .. .	4 344	4 368	4 142	4 909
Textile yarn and fabrics .. .. .	12 391	14 198	15 799	23 690
Tobacco and cigarettes .. .. .	13 392	13 246	11 158	13 601
Wheat .. .. .	2 907	2 780	2 783	5 074
Other (b) .. .. .	96 760	95 202	100 029	132 222
<b>Total imports .. .. .</b>	<b>334 519</b>	<b>341 947</b>	<b>356 145</b>	<b>451 843</b>

(a) Mainly tourist and other motor vehicles imported as personal effects.

(b) Includes value details for items marked '*n. p.*'.

The table that follows shows the quantities of the principal commodities imported and has been compiled, as far as this is practicable, to match the preceding table of values.

**Imports of Principal Commodities by Sea and Air: Quantities**

Commodity	Unit of quantity	1970-71	1971-72	1972-73	1973-74
Alcoholic beverages—					
Ale, beer, stout and cider .. .. .	'000 £ al	3 145	2 130	2 065	1 692
Wine .. .. .	'000 £ al	2 362	2 422	2 670	2 970
Spirits and liqueurs—Overseas .. .. .	'000 £ al	49	34	36	45
Interstate .. .. .	'000 £ al	823	819	836	828
Aluminium oxide and hydroxide .. .. .	kg	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Cocoa beans and cocoa butter .. .. .	kg	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>	<i>n. p.</i>
Confectionery .. .. .	'000 kg	2 928	2 855	2 686	2 897
Iron and steel .. .. .	t	101 085	106 889	100 570	120 378
Motor vehicles—New .. .. .	no.	<i>r</i> 14 998	<i>r</i> 15 958	16 589	19 740
Other (a) .. .. .	no.	16 956	17 886	16 754	17 200
Ores and concentrates—Zinc .. .. .	t	277 560	330 428	<i>r</i> 333 803	274 732
Other .. .. .	t	296 725	472 851	403 324	212 158
Petroleum products—					
Motor spirit .. .. .	'000 £	318 208	321 741	365 569	357 525
Fuel oils .. .. .	'000 £	605 914	595 087	639 537	547 938
Pulp for paper-making .. .. .	t	84 174	71 883	84 582	83 657
Sugar, refined .. .. .	'000 kg	24 386	24 518	23 245	26 623
Tobacco and cigarettes .. .. .	'000 kg	1 026	1 018	823	936
Wheat .. .. .	t	53 321	49 978	49 359	76 092

(a) Mainly tourist and other motor vehicles imported as personal effects.

## Imports from Principal Overseas Countries

The next table shows the value of imports, by commodities, from principal overseas countries. As can be seen from the table, Japan replaced the United Kingdom as Tasmania's principal source of imports in 1972-73. In 1973-74 the value of imports from Japan (\$12.5m) accounted for 18 per cent of the total value of imports from overseas countries (\$69.3m), the United Kingdom accounted for 15 per cent, the United States and Canada each accounted for 13 per cent and New Zealand accounted for 12 per cent.

Value of Imports from Principal Overseas Countries  
(\$'000)

Commodity	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
JAPAN						
Chemicals .. .. .	284	402	1 420	856	558	879
Commercial vehicles ..	371	263	231	381	809	775
Machinery, other than electric	1 376	667	226	586	740	2 092
Motor cycles .. .. .	68	91	166	160	242	500
Passenger motor vehicles ..	770	483	653	719	1 081	2 141
Textiles .. .. .	1 965	1 794	1 091	1 566	2 520	3 509
Other (a) .. .. .	874	1 609	1 632	781	1 053	2 566
Total .. .. .	5 708	5 309	5 419	5 049	7 003	12 462
UNITED KINGDOM						
Chemicals .. .. .	454	307	456	633	687	725
Electrical machinery ..	2 294	694	651	339	211	406
Food, beverages and tobacco	254	288	207	178	178	149
Machinery other than electric	1 881	5 404	1 400	2 061	1 195	3 598
Metal manufactures .. ..	241	283	285	451	360	299
Oils and fats .. .. .	..	3	..	5	32	210
Printed matter .. .. .	462	287	251	284	288	275
Scientific equipment .. ..	105	162	141	219	159	128
Ships and boats .. .. .	57	..	7	33	2	1 000
Textile fibres .. .. .	283	339	320	195	364	758
Textiles .. .. .	1 128	1 041	828	729	828	1 005
Tyres and tubes .. .. .	178	151	247	212	187	196
White clays .. .. .	226	271	321	316	580	345
Other (a) .. .. .	1 142	1 333	985	1 224	931	1 142
Total .. .. .	8 705	10 563	6 098	6 878	6 000	10 237
UNITED STATES OF AMERICA						
Bentonite .. .. .	146	341	210	395	422	396
Chemicals .. .. .	549	685	167	199	333	556
Commercial vehicles .. ..	..	134	322	1	37	550
Copper, refined .. .. .	..	..	..	16	166	640
Electrical machinery .. ..	184	115	213	69	157	164
Iron and steel .. .. .	36	44	103	9	40	253
Machinery, other than electric	1 658	2 677	1 673	826	2 205	2 165
Petroleum coke .. .. .	850	748	1 680	1 666	1 073	946
Textiles .. .. .	257	266	227	18	62	256
White clays .. .. .	..	1	44	6	12	177
Wood-pulp for paper-making	895	971	1 839	957	1 070	2 094
Other .. .. .	1 054	653	791	493	409	733
Total .. .. .	5 629	6 636	7 269	4 655	5 986	8 930

**Value of Imports from Principal Overseas Countries—continued**  
( '\$000)

Commodity	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
<b>CANADA</b>						
Fertiliser, manufactured ..	..	..	213	143	..	279
Wood-pulp for paper-making	1 364	2 832	3 293	3 276	3 666	4 729
Zinc ores and concentrates ..	..	..	..	..	..	3 029
Other .. .. .	901	1 402	1 295	359	675	829
Total .. .. .	2 265	4 234	4 801	3 778	4 341	8 866

(a) Includes value details for items not available for separate publication.

**Exports of Principal Commodities**

The following table shows the value of principal commodities exported from Tasmania by sea and air:

**Exports of Principal Commodities by Sea and Air: Values**  
( '\$000)

Commodity	1971-72	1972-73	1973-74
Butter (including butter oil) .. .. .	8 067	6 104	6 441
Cheese .. .. .	3 875	4 085	5 930
Fertilisers, manufactured .. .. .	2 605	2 697	1 852
Fish, crustaceans and molluscs .. .. .	4 780	4 336	7 206
Fruit—Apples (fresh) .. .. .	10 420	10 846	15 419
Juices and syrups .. .. .	821	1 504	1 316
Other .. .. .	2 800	3 209	3 976
Hides and skins (cattle, calf, horse and sheep)	2 867	5 364	5 211
Hops .. .. .	2 114	2 802	819
Live animals .. .. .	2 735	4 336	10 284
Machinery .. .. .	3 902	5 524	5 056
Meat—Beef and veal .. .. .	9 158	15 237	18 818
Lamb and mutton .. .. .	2 752	2 548	1 942
Other .. .. .	2 252	2 583	1 747
Metal manufactures .. .. .	5 874	6 162	9 503
Metals, refined—Cadmium .. .. .	1 866	2 180	2 500
Zinc .. .. .	55 149	63 707	77 143
Motor cars and commercial vehicles (a) ..	28 229	28 537	28 997
Ores and concentrates—Copper .. .. .	27 137	24 108	35 170
Iron .. .. .	25 503	27 994	25 352
Lead .. .. .	7 538	7 471	11 303
Tin .. .. .	20 364	21 455	17 967
Tungsten .. .. .	7 320	6 515	4 589
Sulphuric acid .. .. .	7 096	8 657	6 958
Tallow .. .. .	1 286	1 316	2 049
Textile yarn, fabrics and made-up articles ..	29 938	31 680	41 174
Timber—Dressed .. .. .	8 875	7 481	7 753
Undressed .. .. .	8 510	13 341	18 403
Vegetables, fresh and preserved .. .. .	16 782	16 518	20 296
Woodchips .. .. .	4 354	16 833	31 019
Wool, greasy .. .. .	17 180	34 579	38 319
Commodities not available for publication (b)	134 001	168 707	216 681
All other exports .. .. .	44 782	11 831	17 499
Total .. .. .	510 932	570 247	698 692

(a) Mainly tourist and other motor vehicles exported as personal effects.

(b) Commodities comprising this item are: aluminium, alumina, beadings and mouldings, paper, hard-board, cement, ferro-manganese, silicon-manganese, confectionery, cocoa and chocolate, food beverages, paper pulp, metal scrap, calcium carbide, titanium oxides, plywood, welding rods and electrodes, particle board and asbestos-cement articles.

The next table shows the quantities of the principal commodities exported and has been compiled, as far as possible, to match the preceding table of values:

Exports of Principal Commodities by Sea and Air: Quantities

Commodity (a)	Unit of quantity	1971-72	1972-73	1973-74
Butter (including butter oil) .. ..	'000 kg	9 829	7 437	8 269
Cheese .. .. .	'000 kg	6 816	6 656	7 730
Fertilisers, manufactured .. .. .	t	35 346	34 293	31 752
Fish—Abalone .. .. .	'000 kg	880	700	1 018
Rock lobster .. .. .	'000 kg	689	847	1 423
Other .. .. .	'000 kg	964	909	1 549
Fruit—Apples (fresh) .. .. .	'000 kg	70 505	79 781	87 141
Juices and syrups .. .. .	'000 l	1 243	2 231	1 726
Other .. .. .	'000 kg	11 525	12 670	12 275
Hides and skins (cattle, calf and sheep) ..	'000 kg	6 742	7 074	7 183
Hops .. .. .	'000 kg	1 208	1 470	478
Live animals—Cattle .. .. .	no.	23 707	33 899	53 461
Sheep .. .. .	no.	81 161	125 529	146 894
Meat—Beef and veal .. .. .	'000 kg	10 115	14 472	17 197
Lamb and mutton .. .. .	'000 kg	7 780	4 893	2 534
Pork .. .. .	'000 kg	2 155	2 202	1 330
Other .. .. .	'000 kg	1 417	1 494	1 106
Metals, refined—Cadmium .. .. .	kg	398 290	475 966	485 336
Zinc .. .. .	t	194 258	208 349	190 293
Motor cars and commercial vehicles (b) ..	no.	18 064	17 006	17 314
Ores and concentrates—Copper .. .. .	t	113 570	99 440	115 693
Iron .. .. .	'000 t	2 189	2 536	2 341
Lead .. .. .	t	45 248	47 404	45 311
Tin .. .. .	t	13 447	15 331	11 031
Tungsten .. .. .	t	2 633	2 381	1 614
Timber—Dressed .. .. .	m <sup>3</sup>	80 272	60 547	60 117
Undressed .. .. .	m <sup>3</sup>	122 061	164 281	210 131
Vegetables—Fresh .. .. .	'000 kg	10 521	12 926	23 571
Preserved .. .. .	'000 kg	46 959	45 393	49 478
Woodchips .. .. .	'000 t	301	1 156	2 138
Wool, greasy .. .. .	'000 kg	20 413	17 735	16 963

(a) Principal commodities not available for publication comprise: aluminium, alumina, hardboard, cement, ferro-manganese, silicon-manganese, confectionery, cocoa and chocolate, food beverages, paper-pulp, metal scrap, calcium carbide, titanium oxides, plywood, welding rods and electrodes, particle board and asbestos-cement articles.

(b) Mainly tourist and other motor vehicles exported as personal effects.

### Export of Selected Commodities

The following table shows, in summary form, total exports of some important commodities for selected years since 1939-40:

Exports of Selected Commodities by Sea and Air

Commodity	Unit of quantity	1939-40	1949-50	1959-60	1969-70	1973-74
QUANTITY						
Apples and pears, fresh .. .. .	'000 kg	74 373	56 911	80 683	109 384	92 116
Butter (including butter oil) .. .. .	'000 kg	2 816	2 179	7 864	12 611	8 269
Hops .. .. .	'000 kg	719	802	1 340	1 368	478
Meat, fresh, chilled or frozen .. .. .	'000 kg	2 534	957	9 225	17 048	22 167
Ores and concentrates .. .. .	'000 t	137	6	28	2 175	2 514
Timber, dressed and undressed .. .. .	'000 m <sup>3</sup>	120	148	178	207	270
Woodchips .. .. .	'000 t	.. ..	.. ..	.. ..	.. ..	2 138
Wool, greasy .. .. .	'000 kg	5 110	5 228	12 690	16 513	16 963
Zinc, refined .. .. .	t	72 047	81 998	115 680	163 847	190 293

Exports of Selected Commodities by Sea and Air—*continued*

Commodity	1939-40	1949-50	1959-60	1969-70	1973-74
VALUE (\$'000)					
Apples and pears, fresh .. ..	2 270	4 348	9 490	14 905	16 458
Butter (including butter oil) .. ..	742	1 277	5 390	6 950	6 441
Meat, fresh, chilled or frozen .. ..	310	312	3 801	11 774	22 507
Ores and concentrates—Copper .. ..	..	2	40	8 369	35 170
Iron .. ..	..	..	..	25 286	25 352
Lead .. ..	595	386	2 956	7 358	11 303
Tin .. ..	688	723	1 507	16 207	17 967
Textile yarn and fabrics .. ..	2 674	5 540	17 524	27 784	41 174
Timber, dressed and undressed .. ..	1 238	2 930	8 952	16 238	26 156
Woodchips .. ..	..	..	..	..	31 019
Wool, greasy .. ..	1 376	6 202	15 254	17 821	38 319
Zinc, refined .. ..	2 856	9 964	22 922	42 625	77 143

## Exports to Principal Overseas Countries

Details for commodities exported to principal overseas countries are given in the next table:

## Exports to Principal Overseas Countries

Commodity	Unit of quantity	Quantity			Value (\$'000)		
		1971-72	1972-73	1973-74	1971-72	1972-73	1973-74
JAPAN							
Abalone .. .. .	'000 kg	444	246	513	1 012	604	1 133
Cheese .. .. .	'000 kg	1 640	1 870	2 154	851	1 092	1 518
Copper ores and concentrates .. .. .	t	74 421	71 409	91 517	15 669	15 793	31 030
Hides and skins (cattle and calf) .. .. .	'000 kg	784	1 040	1 106	298	773	693
Iron ores and concentrates .. .. .	'000 t	2 189	2 532	2 334	25 503	27 950	25 268
Meat and bone meal .. .. .	t	3 367	3 955	3 121	231	529	606
Meat, fresh, chilled or frozen .. .. .	'000 kg	5 045	4 172	3 662	1 982	3 510	4 281
Milk, dried .. .. .	'000 kg	..	..	1 747	..	..	649
Pulpwood .. .. .	t	..	..	27 706	..	..	521
Woodchips .. .. .	'000 t	301	1 156	2 138	4 354	16 833	31 018
Wool, greasy .. .. .	'000 kg	3 335	3 415	2 023	2 771	5 987	4 894
Other (a) .. .. .	..	..	..	..	3 327	2 161	3 267
Total .. .. .	..	..	..	..	55 997	75 231	104 880
UNITED KINGDOM							
Apples, fresh .. .. .	'000 kg	38 688	27 407	33 151	5 586	3 498	6 128
Butter .. .. .	'000 kg	7 222	4 678	..	6 238	3 959	..
Fruit juices .. .. .	'000 l	2	240	479	1	189	347
Meat, fresh, chilled or frozen .. .. .	'000 kg	3 389	4 541	2 684	1 666	3 201	2 164
Pears, fresh .. .. .	'000 kg	3 175	2 440	2 577	486	361	553
Timber .. .. .	m <sup>3</sup>	563	1 096	1 135	76	152	206
Tin ores and concentrates .. .. .	t	2 900	4 210	927	2 176	1 815	554
Wheat gluten .. .. .	'000 kg	..	..	541	..	..	336
Wool, greasy .. .. .	'000 kg	1 004	1 052	648	831	1 943	1 229
Zinc, refined .. .. .	t	41 954	33 432	20 015	9 986	7 740	7 024
Other (a) .. .. .	..	..	..	..	2 533	1 060	972
Total .. .. .	..	..	..	..	29 580	23 918	19 514

Exports to Principal Overseas Countries—*continued*

Commodity	Unit of quantity	Quantity			Value (\$'000)		
		1971-72	1972-73	1973-74	1971-72	1972-73 <sup>r</sup>	1973-74 <sup>r</sup>
UNITED STATES OF AMERICA							
Butter .. .. .	'000 kg	..	..	1 113	..	..	763
Cadmium, refined .. .. .	'000 kg	7	62	42	28	298	224
Casein .. .. .	t	1 050	1 071	1 144	762	785	833
Cheese .. .. .	'000 kg	655	1 415	3 542	450	956	3 149
Lead ores and concentrates .. .. .	t	41 341	39 300	40 137	6 903	6 642	11 078
Meat, fresh, chilled or frozen .. .. .	'000 kg	7 814	8 530	9 917	7 434	9 526	11 430
Rock lobster .. .. .	'000 kg	155	71	127	1 032	418	812
Wheat gluten .. .. .	'000 kg	..	1 251	1 015	..	536	473
Zinc, refined .. .. .	t	30 939	40 255	22 209	9 692	13 998	10 935
Other (a) .. .. .	..	..	..	..	760	2 276	7 122
Total .. .. .	..	..	..	..	27 062	35 434	46 819
INDIA							
Zinc, refined .. .. .	t	18 208	18 453	19 009	5 221	5 693	7 193
Other (a) .. .. .	..	..	..	..	524	435	325
Total .. .. .	..	..	..	..	5 744	6 128	7 518

(a) Includes item(s) for which details are not available for separate publication.

## RETAIL TRADE IN TASMANIA

## Censuses of Retail Establishments

*Historical*

Before the Integrated Economic Censuses of 1968-69, retail censuses were undertaken for the years ended 30 June 1948, 1949, 1953, 1957 and 1962. The information collected in each census was extensive and provided details of retail trading in local government areas, in statistical divisions, and in special 'statistical retail areas'. The census information was also used as a bench-mark for designing a sample representative of all retail establishments for the purpose of inter-censal quarterly surveys which are the basis for calculating estimates of the quarterly value of retail sales; estimates of the value of retail sales, based on these surveys, have been calculated for each quarter.

In 1968-69 simultaneous economic censuses for five sectors were undertaken: retailing; manufacturing; mining; wholesaling; and electricity and gas. Results of these censuses appear in the special appendix to this chapter. Definitions of concepts and terms appear in Appendix B 'Economic Censuses' of this Year Book.

*Retail Census—1973-74*

A retail census was conducted covering trading in 1973-74 but there were no data items collected for purchases, stocks or capital expenditure (as there had been in the 1968-69 census); also certain types of establishment were now excluded: bread and milk vendors; footwear repairers; motion picture theatres; and laundries and dry cleaners. The aim of the census was to provide an up-to-date framework for the quarterly retail surveys; therefore the types of establishment included and the financial data collected were limited to serve this rather narrow purpose.

## Results 1973-74 Census

The following tables give results for Tasmania of the 1973-74 retail census. Direct comparisons with the results of previous censuses cannot be made because of changes in the scope of the census.

**Census of Retail and Selected Service Establishments, 1973-74**  
**Summary of Operations by Industry Group**

Industry group	ASIC code (a)	Establishments operating at 30 June	Persons employed (b)			Wages and salaries
			Males	Females	Persons	
		no.	no.	no.	no.	\$m
Department, variety and general stores .. .. .	481	80	677	2 089	2 766	8.8
Food stores .. .. .	482	1 441	2 660	3 454	6 114	10.7
Clothing, fabric and furniture stores .. .. .	484	529	935	1 768	2 703	7.7
Household appliances and hardware stores .. .. .	485	291	819	535	1 354	4.1
Motor vehicle, petrol and tyre retailers .. .. .	486	955	4 663	1 020	5 683	17.4
Other retailers .. .. .	487	571	754	1 400	2 154	4.6
Total retail establishments	..	3 867	10 508	10 266	20 774	53.2
Restaurants and licensed hotels	921	417	2 315	3 422	5 737	15.8
Licensed clubs .. .. .	922	163	501	172	673	1.9
Hairdressing and beauty salons	932	256	127	646	773	1.4
Total selected service establishments ..	..	836	2 943	4 240	7 183	19.1
Grand total .. .. .	..	4 703	13 451	14 506	27 957	72.3

(a) Australian Standard Industrial Classification.

(b) At last pay day in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

**Census of Retail and Selected Service Establishments, 1973-74**  
**Summary of Operations by Industry Group—continued**

Industry group	Retail sales (a)	Wholesale sales	Other operating revenue	Turnover
	\$m	\$m	\$m	\$m
Department, variety and general stores ..	56.7	0.9	1.7	59.3
Food stores .. .. .	137.5	0.7	0.9	139.2
Clothing, fabric and furniture stores ..	64.5	0.1	0.6	65.1
Household appliances and hardware stores ..	29.7	0.4	3.0	33.1
Motor vehicle, petrol and tyre retailers ..	160.1	9.5	21.7	191.4
Other retailers .. .. .	36.1	0.6	0.4	37.1
Total retail establishments ..	484.6	12.3	28.3	525.2
Restaurants and licensed hotels .. .. .	41.9	..	25.0	66.9
Licensed clubs .. .. .	7.7	..	1.3	9.0
Hairdressing and beauty salons .. .. .	0.1	..	3.3	3.5
Total selected service establishments	49.7	..	29.6	79.3
Grand total .. .. .	534.3	12.3	57.9	604.5

(a) Retail sales is a component of turnover in the last column.



In the next table, details are given of establishments, persons employed and value of retail sales by statistical divisions:

**Number of Retail and Selected Service Establishments, Persons Employed and Value of Retail Sales by Statistical Division, 1973-74**

Statistical division or sub-division	Retail and selected service establishments	Persons employed (a)	Value of retail sales (b)
	no.	no.	\$'000
Hobart .. .. .	1 741	12 527	237 003
Southern .. .. .	326	1 099	16 058
Northern—			
Tamar .. .. .	1 198	6 991	139 779
North Eastern .. .. .	226	819	10 420
Total .. .. .	1 424	7 810	150 199
Mersey-Lyell—			
North-Western .. .. .	1 074	5 812	120 140
Western .. .. .	138	709	10 900
Total .. .. .	1 212	6 521	131 040
Total Tasmania .. .. .	4 703	27 957	534 306
Urban Hobart .. .. .	1 527	11 663	221 225
Urban Launceston .. .. .	892	5 900	121 388

(a) At last pay day in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

(b) These figures refer to the total value of all commodities sold retail by all retail establishments and similar sales by selected service establishments.

*Sales by Commodity:* Classifications by industry or by region of the commodities shown in the next table are available from the Bureau.

**Number of Retail and Selected Service Establishments Reporting Retail Sales, and Value of Sales by Commodity Item, 1973-74**

Commodity item	Establishments	Retail sales	Proportion of total sales
	no.	\$'000	per cent
Groceries .. .. .	1,169	63 775	11.94
Fresh meat .. .. .	384	26 154	4.90
Confectionery, ice cream, soft dinks, etc. ..	1 512	14 570	2.73
Other food (a) .. .. .	1 007	21 255	3.98
Beer, wine and spirits .. .. .	492	47 823	8.95
Cigarettes and other tobacco products ..	1 794	15 874	2.97
Clothing and drapery .. .. .	621	65 754	12.31
Footwear .. .. .	295	10 338	1.94
Domestic hardware (b) .. .. .	489	14 397	2.69
Radios, television sets, musical instruments, etc. (c) .. .. .	224	10 965	2.05
Household electrical appliances (d) .. ..	186	13 531	2.53
Furniture (e) .. .. .	125	11 477	2.15
Floor coverings (f) .. .. .	120	9 931	1.86
Cosmetics, perfumes, toilet preparations ..	479	9 629	1.80
Prescription and patent medicines (g) ..	247	10 532	1.97
Newspapers, books and stationery .. ..	516	13 116	2.46
Goods not elsewhere classified (h) .. ..	720	15 419	2.89

**Number of Retail and Selected Service Establishments Reporting Retail Sales, and Value of Sales by Commodity Item, 1973-74—continued**

Commodity item	Establishments	Retail sales	Proportion of total sales
	no.	\$'000	per cent
New motor vehicles, new and used motor cycles, etc. (i) .. .. .	142	61 445	11.50
Used motor vehicles .. .. .	172	48 802	9.13
New and used parts and accessories, petrol, oil, etc. .. .. .	723	49 523	9.27
Total .. .. .	..	534 306	100.00

(a) Includes fresh fruit and vegetables, bread, cakes and pastry, fish (fresh or cooked), chips, hamburgers and cooked chicken.

(b) Includes china, glassware, jewellery, watches and clocks and garden equipment but excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc.

(c) Includes radiograms, tape recorders, records, sheet music, etc.

(d) Includes domestic refrigerators and freezers, washing machines, stoves, household heating appliances, bottled liquid petroleum gas, etc.

(e) Includes mattresses, blinds, etc. and installation and repairs.

(f) Includes carpets, lino, etc. and laying of floor coverings.

(g) Includes therapeutic appliances.

(h) Includes photographic equipment and supplies, sporting goods, bicycles, toys, antiques, disposa and secondhand goods, cut flowers, garden seeds, shrubs, travel goods and brief cases, etc.

(i) Includes new and used boats and caravans.

### Quarterly Estimates of Value of Retail Sales

Each quarter, returns of retail sales are collected from a fraction (or sample) of all retail businesses recorded in the most recent census of retail establishments, the fraction being selected to represent the field covered by the census. This sample is varied annually to make provision for 'new' establishments opening up, 'old' establishments closing down and 'old' establishments changing type ('old', in this context, relates to business as recorded at the most recent census of retail establishments).

#### Estimated Value of Retail Sales of Goods by Commodity Groups (a)

Commodity group	1973		1974	
	Value	Proportion of total	Value	Proportion of total
	\$m	%	\$m	%
Groceries .. .. .	62.5	17.1	71.9	16.4
Butchers' meat .. .. .	24.6	6.7	31.9	7.3
Other food .. .. .	35.5	9.7	43.3	9.9
Beer, wine and spirits .. .. .	47.0	12.9	56.1	12.8
Clothing and drapery .. .. .	67.6	18.5	80.0	18.2
Footwear .. .. .	8.9	2.4	11.3	2.6
Domestic hardware, china and glassware .. .. .	11.6	3.2	14.4	3.3
Electrical goods .. .. .	21.6	5.9	28.7	6.5
Furniture .. .. .	20.1	5.5	24.6	5.6
Chemists' goods .. .. .	18.4	5.0	21.2	4.8
Newspapers, books, stationery, etc. .. .. .	14.4	3.9	15.2	3.5
Other goods (b) .. .. .	33.1	9.1	40.2	9.2
Total (b) .. .. .	365.3	100.0	438.8	100.0

(a) Based on sample from the 1968-69 Integrated Census.

(b) Excluding motor vehicles, parts, petrol, etc.

*Retail Sales of Goods, Australia*

The following table gives details of the estimated value of retail sales of goods for recent years and quarters for Australia at current (actual prices paid) and constant (average 1968-69) prices. The constant prices series is derived from the original series by using specially constructed price indexes for various commodity groups in order to eliminate the direct effects of price changes (for further details see the Canberra office publication 'Retail Sales of Goods' (ref. 11.4) for the December quarter 1974).

Estimated Value of Retail Sales of Goods: Australia (a)  
(\$ million)

Year or quarter	Food and drink		Other (b)		Total (b)	
	Current prices (c)	Constant prices (d)	Current prices (c)	Constant prices (d)	Current prices (c)	Constant prices (d)
1971-72 .. .. .	5 122.9	4 590.0	5 649.5	4 964.1	10 772.4	9 554.1
1972-73 .. .. .	5 630.1	4 783.9	6 274.7	5 245.5	11 904.8	10 029.4
1973-74 .. .. .	6 534.6	4 866.5	7 546.4	5 730.2	14 081.0	10 596.7
1973-74—						
September .. .. .	1 496.4	1 177.8	1 677.7	1 327.9	3 174.1	2 505.7
December .. .. .	1 705.6	1 299.0	2 149.5	1 653.8	3 855.1	2 952.8
March .. .. .	1 637.5	1 202.9	1 727.9	1 304.4	3 365.4	2 507.3
June .. .. .	1 695.1	1 186.8	1 991.3	1 444.1	3 686.4	2 630.9
1974-75—						
September .. .. .	1 764.7	1 192.7	2 019.7	1 384.0	3 784.4	2 576.7
December .. .. .	1 924.6	1 285.8	2 485.0	1 633.4	4 409.6	2 919.2
March .. .. .	1 848.3	1 215.0	1 972.2	1 268.5	3 820.5	2 483.5

(a) Excludes Northern Territory and Australian Capital Territory.

(b) Excludes motor vehicles, parts, petrol, etc.

(c) Original prices.

(d) Average 1968-69 prices—see text preceding table.

## WHOLESALE TRADE

### Introduction

Censuses and surveys of retail trade were introduced by the Bureau in the late 1940's; a continuous quarterly series shows retail sales for the last 25 years or so in terms of broad commodity groups. Developments in this field occupied all the resources available and the problem of creating a matching wholesale series had to be deferred. However, a pilot census was conducted covering wholesale trading in 1963-64, the aim being to identify the various categories of wholesalers and to discover the various types of operation.

The results of the pilot census were not published but they served to show the definitional framework necessary for a full-scale census, and to highlight differences between retail and wholesale operations (e.g. the greater relative importance in the wholesale sector of sales on commission).

The decision was taken to defer any full-scale wholesale census until 1968-69 when simultaneous censuses were being held in other sectors of the economy, the more relevant being those covering manufacturing and retailing. The link between wholesaling and these two sectors is easily apparent; manufacturers often market through wholesalers, and the wholesalers in turn are suppliers of goods to retailers. The inclusion of all three sectors in three simultaneous censuses meant that there were no overlaps or gaps in coverage.

## Census of Wholesale Establishments, 1968-69

For definitions of terms, concepts, etc., see Appendix B 'Economic Censuses' of this Year Book.

*Types of Wholesale Operations*

(i) *Primary Produce Dealers or Agents*: Establishments mainly purchasing produce direct from farmers, graziers, fishermen, etc. or selling produce on commission to such producers; included are all establishments of the country 'stock and station agent' type.

(ii) *Wholesale Merchants*: Establishments mainly selling goods owned by the enterprise and not bought direct from primary producers. A further dissection separates out 'import and/or export merchants' as a special sub-set.

(iii) *Manufacturers' Sales Branches Holding Stocks*: Establishments mainly selling goods manufactured by other establishments of the same enterprise *provided*: (a) the sales branch is separately located from all manufacturing establishment locations; and (b) it supplies goods direct to customers from stocks physically held at premises occupied or controlled by the branch itself.

(iv) *Commission Agents or Brokers*: Establishments mainly selling or purchasing goods on commission for other enterprises (except those selling on behalf of primary producers, included in (i) previously; and on behalf of oil companies, included in (v) following).

(v) *Petroleum Distributors*: Establishments mainly dealing in petroleum products, either on account of the enterprise or on commission for other enterprises.

(vi) *Repairers and Lessors of Machinery and Equipment*: Establishments mainly repairing farm machinery or business machines, or leasing machinery or equipment without operators for periods exceeding one year. These activities are included in wholesale trade because they are usually performed by establishments whose main activity is the wholesale distribution of machinery. Other repair activity which is usually performed by manufacturing establishments is included in the manufacturing census.

*Results of the 1968-69 Census*

The tables that follow show some of the main items recorded in the 1968-69 census of wholesale establishments.

Census of Wholesale Establishments, 1968-69  
Summary of Operations by Broad Type of Operation

Type of operation	Establishments operating at 30 June	Persons employed (a)			Wages and salaries	Sales on commission (b)
		Males	Females	Total		
	no.	no.	no.	no.	\$m	\$m
Primary produce dealers or agents .. .. .	87	1 279	356	1 635	4.7	53.1
Wholesale merchants—						
Import and/or export ..	57	330	127	457	1.2	1.6
Other .. .. .	500	3 982	1 080	5 062	13.3	5.4
Manufacturers' sales branches	98	560	160	720	2.2	12.1
Commission agents or brokers	102	224	146	370	0.5	21.9
Petroleum distributors ..	56	392	71	463	1.5	54.9
Repairers and lessors of machinery and equipment ..	20	59	9	68	0.2	..
Total wholesale trade ..	920	6 826	1 949	8 775	23.6	149.1

**Census of Wholesale Establishments, 1968-69**  
**Summary of Operations by Broad Type of Operation—continued**

Type of operation	Turnover	Stocks at 30 June		Purchases, transfers in and other selected expenses	Value added
		1968	1969		
Primary produce dealers or agents ..	\$m 45.4	\$m 6.1	\$m 6.1	\$m 35.1	\$m 10.3
Wholesale merchants—					
Import and/or export .. .. .	24.5	3.3	3.2	21.3	3.2
Other .. .. .	178.9	25.0	27.7	148.9	32.8
Manufacturers' sales branches .. ..	31.9	3.0	3.2	25.6	6.5
Commission agents or brokers .. ..	3.5	0.2	0.2	2.1	1.5
Petroleum distributors .. .. .	23.3	1.4	1.9	17.5	6.4
Repairers and lessors of machinery and equipment .. .. .	1.0	..	0.1	0.4	0.6
Total wholesale trade .. .. .	308.6	39.1	42.4	250.7	61.2

(a) At last pay period in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

(b) The *commission* from these sales is included in the calculation of 'value added' (since commission received is a component of 'turnover') but the sales themselves are excluded from the calculation.

A peculiarity of wholesale trading is that there are two types of sales: (i) those made on own account; and (ii) those made on commission. While 'turnover' includes value of sales on own account it includes only the commission received in respect of sales on commission. The next table shows a broad geographical distribution of the main wholesale census items:

**Census of Wholesale Establishments, 1968-69: Main Items by Statistical Division**

Statistical division or sub-division	Establishments operating at 30 June	Total persons employed (a)	Wages and salaries	Sales on commission (b)	Sales on own account and transfers out	Value added
	no.	no.	\$m	\$m	\$m	\$m
Hobart .. .. .	395	4 008	11.1	64.9	144.7	29.1
Southern .. .. .	44	241	0.4	1.2	4.2	0.8
Northern—						
Tamar .. .. .	283	2 674	7.1	47.0	76.6	16.4
North Eastern .. .. .	32	83	0.2	0.2	2.9	0.5
Total .. .. .	315	2 757	7.3	47.2	79.5	16.9
Mersey-Lyell—						
North Western .. .. .	161	n.p.	n.p.	n.p.	n.p.	n.p.
Western .. .. .	5	n.p.	n.p.	n.p.	n.p.	n.p.
Total .. .. .	166	1 769	4.9	35.8	58.3	14.4
Tasmania .. .. .	920	8 775	23.6	149.1	286.7	61.2
Urban Hobart .. .. .	384	3 921	10.9	63.1	144.0	28.7
Urban Launceston .. .. .	251	2 578	6.9	35.1	74.5	15.7

(a) At last pay period in June; includes working proprietors and unpaid helpers working at least 15 hours during the week.

(b) The *commission* from these sales is included in the calculation of 'value added' (since commission received is a component of 'turnover') but the sales themselves are excluded from the calculation.

## TOURIST ACCOMMODATION STATISTICS

## The 'Tourist Industry'

The first thing a statistician has to say about the tourist industry is that, for all practical purposes, it does not exist as a clearly defined sector of the economy. The difficulty here is that tourist expenditure is extremely hard to measure or to distinguish from expenditure by residents. The tourist dollar is no different from anybody else's dollar so that all sorts of receipts comprise a mixed bag representing largely the purchase of goods and services by residents but including some similar purchases by tourists.

A better phrase than 'tourist industry' is 'tourist impact'. Tourist impact can be defined as those extra purchases of goods and services which are brought into being by travel.

Probably the most effective way of measuring tourist impact is to interview suitable samples of tourists and ascertain the pattern and scale of their expenditures while on tour. From these data estimates can be made of total tourist impact on the purchases of goods and services.

Another way of measuring tourist impact is to identify businesses which provide accommodation for tourists. This method has the advantage of easy definition but, on the other hand, the takings of such establishments cannot be allocated exclusively to tourism because the establishments are also used by residents (e.g. public bar trade of licensed hotels).

## Census, 1973-74

Covering operations in the year 1973-74, the Bureau of Statistics conducted its first census of tourist accommodation establishments which were defined as those which catered predominantly for short-term guests. The aim was to obtain a broad picture of this accommodation sector in the census year and also to provide the framework for subsequent occupancy surveys. In the tables that follow the establishments are classified in accordance with the following definitions:

*Licensed Hotel*: Any hotel or motel which has a public bar licence.

*Licensed Motel*: A motel with a licence to serve drinks but without a public bar licence.

*'With Facilities'*: Establishments consisting predominantly of rooms which incorporate a bath or shower and a toilet.

*'Without Facilities'*: Establishments consisting predominantly of rooms which require guests to use a common bathroom and/or toilet.

Census of Tourist Accommodation Establishments, 1973-74:  
Capacity and Takings by Type of Establishment

Type of establishment	Number of establishments operating at 30 June	Capacity at 30 June (Number of guest rooms)			Gross takings (\$'000)	
		With all facilities	Other	Total	Accommodation	Total (a)
Licensed hotels .. ..	195	1 791	1 550	3 341	6 440	46 636
Licensed motels .. ..	22	706	..	706	1 921	4 169
Unlicensed motels .. ..	36	705	..	705	1 828	2 501
Private hotels and guest houses	29	29	284	313	258	437
Total .. .. .	282	3 231	1 834	5 065	10 446	53 745

(a) Includes accommodation, meals and beer, wine and spirit takings.

**Census of Tourist Accommodation Establishments, 1973-74:**  
**Employment (a) and Wages and Salaries by Type of Establishment**

Type of establishment	Working proprietors		Employees		Total		Wages and salaries paid (\$'000)
	Full-time	Other	Full-time	Other	Full-time	Other	
Licensed hotels..	276	12	1 440	1 770	1 716	1 782	11 425
Licensed motels	19	3	158	258	177	261	1 271
Unlicensed motels	42	10	119	155	161	165	702
Private hotels and guest houses ..	31	10	14	37	45	47	107
Total ..	368	35	1 731	2 220	2 099	2 255	13 504

(a) At 30 June 1974.

The last two tables summarise the main results of the census for Tasmania. The next table analyses the same data on a different basis: in terms of establishments with rooms predominantly equipped 'with facilities'; and those 'without facilities'.

**Hotels, Motels, Guest Houses etc., 1973-74:**

**Capacity, Takings, Employment and Wages and Salaries of Establishments by Type of Rooms Offered and by Size of Establishment**

Size of Establishment (guest rooms)	Number of Establish- ments at 30 June	Number of guest rooms at 30 June	Accommo- dation takings (\$'000)	Persons employed at 30 June		Wages and salaries paid (\$'000)
				Full-time	Other	
ESTABLISHMENTS WITH FACILITIES (a)						
1- 15 ..	45	413	695	225	385	1 811
16- 25 ..	33	685	1 515	235	308	1 571
26- 50 ..	38	} 2 150	6 802	950	889	6 395
51-100 ..	5					
101 and over ..	3					
Total ..	124	3 248	9 013	1 410	1 582	9 777
ESTABLISHMENTS WITHOUT FACILITIES (a)						
1- 15 ..	122	971	638	477	404	2 347
16- 25 ..	27	522	385	145	147	836
26- 50 ..	8	} 324	410	67	122	546
51-100 ..	1					
101 and over ..	..					
Total ..	158	1 817	1 434	689	673	3 729
TOTAL, ALL ESTABLISHMENTS						
1- 15 ..	167	1 384	1 333	702	789	4 158
16- 25 ..	60	1 207	1 899	380	455	2 406
26- 50 ..	46	1 565	3 705	438	634	3 076
51-100 ..	6	} 909	3 509	579	377	3 864
101 and over ..	3					
Total ..	282	5 065	10 446	2 099	2 255	13 504

(a) See definitions under 'Census, 1973-74' preceding this table.



*Geographical Distribution*

The table below shows the regional distribution of accommodation establishments included in the census. An extra column gives details for caravan parks which have been excluded from the previous tables:

**Distribution of Accommodation Establishments at 30 June 1974**  
(Number)

Statistical division or sub-division	Licensed hotels	Licensed motels	Unlicensed motels	Private hotels and guest houses	Total	Caravan parks
Hobart .. ..	59	5	10	7	81	5
Southern .. ..	20	2	4	5	31	14
Northern—						
Tamar .. ..	53	5	8	3	69	10
North-Eastern .. ..	18	1	3	5	27	10
Total .. ..	71	6	11	8	96	20
Mersey-Lyell—						
North-Western .. ..	29	6	11	8	54	19
Western .. ..	16	3	..	1	20	2
Total .. ..	45	9	11	9	74	21
Tasmania ..	195	22	36	29	282	60

*Caravan Parks:* Accommodation takings of caravan parks for 1973-74 were \$368 000. Tasmania's island status probably inhibits rapid growth in this particular accommodation field.

**Tasmanian Occupancy Survey**

It will be noted that the previous tables from the census told how many rooms were available but gave no data on the extent to which they were used. Finding the extent to which rooms are used became the subject of an occupancy survey initiated by the Tasmanian office of the Bureau of Statistics, starting with the December quarter of 1974. (It was impossible to start earlier because the base for the survey had to be the results of the 1973-74 tourist accommodation census.)

The next table sets out the results of the survey for the nine months ended June 1975. It is expected that an Australia-wide survey will commence soon, the first period covered being the September quarter 1975.

The surveyed establishments without facilities, which have been omitted from the tabulation, recorded a State total of 86 500 room nights for the nine months ended June 1975. (This compares with 555 500 room nights for those predominantly offering rooms with facilities.) The corresponding room occupancy rate and density of guests per occupied room for the nine months for establishments 'without facilities' (figures for those 'with facilities' in brackets) were 47 per cent (67 per cent) and 1.49 guests per room (1.77) respectively. These proportions for establishments 'without facilities' were consistently lower over the period, and showed less seasonal variation than is revealed in the series shown in the following table.

**Tasmanian Accommodation Establishments with Facilities (a)—Room Occupancy by Statistical Division, Nine Months Ended June 1975**

Period	Hobart	Southern	Northern		Mersey-Lyell		Total Tasmania
			Tamar	North Eastern	North Western	Western	
ROOM NIGHTS ('000)							
1974—							
October ..	28.6	4.0	12.0	2.4	11.3	4.7	63.0
November ..	26.8	4.2	11.2	2.1	11.3	4.6	60.1
December ..	21.3	3.8	9.9	1.9	10.4	3.8	50.9
1975—							
January ..	32.6	6.0	13.8	3.3	15.9	5.4	77.0
February ..	28.5	4.7	12.8	2.5	12.7	4.6	65.7
March.. ..	31.1	5.2	14.8	2.9	14.5	5.3	73.8
April .. ..	28.7	4.4	12.0	2.3	11.7	4.9	63.9
May .. ..	26.5	3.5	11.0	1.7	10.7	3.7	57.0
June .. ..	18.3	2.6	10.3	1.2	9.3	2.6	44.1
Total ..	242.2	38.3	107.5	20.2	107.7	39.5	555.5

**PROPORTION OF ROOMS OCCUPIED TO ROOMS AVAILABLE (per cent)**

1974—							
October ..	77	59	67	67	52	73	67
November ..	74	64	65	59	54	74	66
December ..	57	56	56	51	48	59	54
1975—							
January ..	87	90	76	91	74	83	82
February ..	84	78	77	76	65	78	77
March.. ..	83	77	81	78	67	82	78
April .. ..	78	66	65	64	56	79	69
May .. ..	69	52	57	47	50	58	60
June .. ..	49	39	56	33	45	41	48
Total ..	73	65	67	63	57	70	67

**AVERAGE NUMBER OF GUESTS PER OCCUPIED ROOM**

1974—							
October ..	1.67	1.95	1.62	1.89	1.52	1.75	1.67
November ..	1.66	1.98	1.69	1.97	1.57	1.77	1.69
December ..	1.74	2.21	1.73	2.04	1.70	1.86	1.78
1975—							
January ..	1.88	2.29	1.86	2.11	1.93	2.21	1.95
February ..	1.70	2.04	1.74	2.09	1.67	1.84	1.75
March.. ..	1.71	2.01	1.79	1.98	1.69	1.82	1.76
April .. ..	1.77	2.08	1.70	1.94	1.57	1.87	1.76
May .. ..	1.79	2.19	1.75	2.06	1.59	1.89	1.78
June .. ..	1.70	2.25	1.63	2.02	1.54	1.74	1.69
Total ..	1.74	2.11	1.73	2.01	1.66	1.87	1.77

(a) Establishments consisting predominantly of rooms which incorporate a bath or shower and a toilet.

**APPENDIX I****LOCATION OF CONTROL OF TASMANIAN ESTABLISHMENTS****Introduction**

Following a request from Dr P. D. Wilde, Lecturer in Geography at the University of Tasmania, the Hobart Office of the Bureau of Statistics conducted a special computer interrogation of the 'state of location magnetic tape file for Tasmania', which is derived from the integrated register of economic enterprises. The information provided by the Bureau enabled Dr Wilde to write a paper (summarised below) which was the first analysis of the location of head offices controlling Tasmanian establishments. The accompanying tables have been derived from this computer interrogation of the integrated register file which was conducted as at February 1975.

**The Integrated Register of Economic Units**

The integrated register includes details relating to establishments, enterprises and enterprise groups. Briefly, an establishment refers to all operations carried on under the one ownership at a single physical location, an enterprise is the operating legal entity and an enterprise group comprises a number of operating legal entities owned or controlled by a single company. (See Appendix B for more detailed definitions.) The integrated register is designed to be used as a mailing list for various economic censuses and to ensure as complete a coverage as possible of all economic establishments without duplication between different industry sectors. Although the register includes employment data, it is not intended for use in the direct production of statistics.

**Accuracy of Data**

Because the integrated register was used to produce statistical tables in this exercise, certain deficiencies were inevitable. The register varies considerably in coverage and accuracy between the divisions of the Australian Standard Industrial Classification (ASIC). This is due to varying dates to which the information held on the register relates and to other factors. Divisions for which an economic census has recently been conducted are relatively complete and up to date compared with divisions for which a census has never been undertaken or for which a census has not been undertaken for some time. Another factor is that updating of the integrated register is geared to prospective census dates and, at any particular time, a number of updating amendments to the register may not have been carried out. Coverage of the register at the time the interrogation was conducted was known to be incomplete. For these reasons, discrepancies occur between employment figures derived from the integrated register and employment estimates based on the 1966 population census. Although these discrepancies exist it is considered that data held on the register gave a reasonable picture of the geography of the actual control of Tasmanian establishments. In particular, percentage figures should give a good indication of the actual position as it is considered that all deficiencies of the register would be fairly evenly spread geographically. Data on the register were best for the manufacturing, mining, retail and accommodation sectors, for which censuses had recently been conducted.

**Classification According to Location of Control**

The basic classification unit used in the tables is the establishment. These are classified according to their Australian Standard Industrial Classification (ASIC) division or sub-division. A large firm may have a number of separate establishments

in a number of different ASIC sub-divisions (with each establishment controlled by the same head office of the enterprise or enterprise group). Computer interrogation of the register identified, for each establishment recorded, the location of the head office which controlled it. For analysis of control as between Tasmania and other states, the head office used is that of the controlling enterprise within the enterprise group. For analysis of control within Tasmania, the head office of the enterprise operating the establishment is used (for those establishments first identified as having the head office of the controlling enterprise within their enterprise group located in Tasmania). However, this difference has little effect on comparability as there are very few enterprise groups under Tasmanian control which consist of more than one enterprise. It should be noted that while the tables classify employment according to the location of the controlling head office, there is no attempt to identify the *nature* of the control which may vary from detailed direct control of day to day running, to establishments in which high levels of decision making are carried out without head office involvement.

In the tables below, ASIC industry divisions or sub-divisions have been arranged in ascending order according to the percentage of employees in Tasmanian establishments controlled from head offices located within Tasmania.

**Tasmanian Employment (a) by Location of Controlling Head Office: All Economic Activity, February 1975**

ASIC (b) code and industry division	Location of controlling head office (c) of—						
	Enterprise by statistical division—			Enterprise group by state—			
	Hobart and Southern	Northern	Mersey- Lyell	Tasmania	Victoria	N.S.W.	Other states and ter- ritories
PER CENT OF TOTAL TASMANIAN EMPLOYMENT							
B Mining ..	2	2	9	13	25	62	..
C Manufacturing	21	12	11	44	45	10	1
G Transport and storage, com- munication(d)	31	10	6	47	49	3	1
I Finance, etc.(d)	32	13	7	52	19	28	1
(e) ..	32	13	7	52	19	28	1
F Wholesale and retail trade ..	38	22	18	78	14	8	1
E Construction (d)	45	20	17	82	16	2	..
L Entertainment, etc. (d) (f) ..	45	25	19	88	n.p.	n.p.	n.p.
K Community services (d) ..	73	16	5	94	n.p.	n.p.	n.p.
D Electricity, gas and water ..	97	n.p.	n.p.	n.p.	..	n.p.	..
All industry (g)	40	16	12	68	22	9	1

(a) Includes employers and self-employed persons.

(b) Australian Standard Industrial Classification (a single letter code is allocated to each division).

(c) Head office in legal control of respective establishment(s) is located in Tasmania.

(d) Less reliable data—see text.

(e) Finance, insurance, real estate and business services.

(f) Entertainment, recreation, restaurants, hotels and personal services.

(g) Includes A, agriculture, forestry, fishing and hunting; and J, public administration and defence (for which separate details are not shown).

**Tasmanian Employment (a) by Location of Controlling Head Office: Manufacturing Establishments, February 1975**

ASIC (b) code and industry sub-division	Location of controlling head office (c) of—						
	Enterprise by statistical division—			Enterprise group by state—			
	Hobart and Southern	Northern	Mersey- Lyell	Tasmania	Victoria	N.S.W.	Other states and ter- ritories

**PER CENT OF TOTAL TASMANIAN EMPLOYMENT**

29 Basic metal products ..	<i>n.p.</i>	..	<i>n.p.</i>	6	90	4	..
23 Textiles ..	1	4	12	16	25	58	..
21-22 Food, beverage & tobacco	21	9	13	44	52	<i>n.p.</i>	<i>n.p.</i>
31 Fabricated metal products	15	20	11	46	50	4	..
32 Transport equipment ..	42	8	1	52	48	..	..
26 Paper and paper products, printing ..	35	13	4	51	48	1	..
27 Chemical, petroleum and coal products	13	1	40	54	43	3	..
28 Non-metallic mineral products ..	18	6	34	58	27	15	..
33 Other industrial machinery, etc. (d) ..	40	15	6	62	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
25 Wood, wood products and furniture ..	29	29	11	70	27	<i>n.p.</i>	<i>n.p.</i>
34 Miscellaneous manufacturing	29	11	32	72	15	<i>n.p.</i>	<i>n.p.</i>
24 Clothing and footwear ..	<i>n.p.</i>	49	<i>n.p.</i>	98	2	..	..
Total manufacturing ..	21	12	11	44	45	10	1

(a) Includes employers and self-employed persons.

(b) Australian Standard Industrial Classification (each sub-division is allocated a two-digit code).

(c) Head office in legal control of respective establishment(s) located in Tasmania.

(d) Other industrial machinery and equipment and household appliances.

## APPENDIX II

### INTEGRATED ECONOMIC CENSUSES

#### Introduction

In the 1972 *Year Book*, Appendix A gave a detailed description of the Australian Integrated Economic Censuses conducted by the Australian Bureau of Statistics for the 1968-69 financial year.

The various industry sectors covered by the integrated economic censuses are each featured in this book; references are:

- (i) *Census of Manufacturing Establishments*, Chapter 9;
- (ii) *Census of Mining Establishments*, Chapter 8;
- (iii) *Census of Wholesale Establishments*, Chapter 10;
- (iv) *Census of Retail Establishments and Selected Service Establishments*, Chapter 10;
- (v) *Census of Electricity and Gas Establishments*, Chapter 9.

The purpose of this section is to bring together the results of the five 1968-69 censuses, and those for later years when a less comprehensive coverage of Australian Standard Industrial Classification (ASIC) Divisions was attempted. Comparison and combination is possible since common definitions and concepts were employed in each.

Definitions of terms and concepts used in the economic censuses are given in Appendix B 'Economic Censuses' of this Year Book.

### Value Added, Employment, etc.

'Value added' is a concept allied to 'net value of production'; the former is a new value concept employed in the integrated censuses just specified while the latter is still employed in series related to primary production (excluding mining). Although broadly analogous, the two concepts are differently defined and direct comparisons are therefore not made.

The following table shows value added as recorded in each census:

**Integrated Economic Censuses, 1968-69: Value Added**

Classification of establishments (a)	Amount	Proportion of total	Per head of mean population
	\$'000	per cent	\$
Mining .. .. .	44 286	10.1	115.71
Manufacturing .. .. .	197 464	45.1	515.96
Electricity and gas .. .. .	33 437	7.6	87.37
Wholesaling .. .. .	61 210	14.0	159.94
Retailing .. .. .	79 380	18.1	207.42
Selected services (b) .. .. .	21 717	5.0	56.75
Total .. .. .	437 494	100.0	1 143.15

(a) As defined in the Australian Standard Industrial Classification.

(b) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hair-dressing and beauty salons.

### Comparison with Primary Industry Series

As previously explained, it is not possible to make a direct comparison between net value of production in the primary industry series and value added in the integrated census series. However, the net value of production series are included in Chapter 8 in the special Appendix, 'Value of Production'. Net value of production for the rural group of primary industries in 1973-74 was \$121.6m (1968-69, \$74.1m); for the non-rural group (excluding mining) \$43.3m (1968-69, \$18.0m); and for both groups \$164.9m (1968-69, \$92.1m).

The last year in which manufacturing and mining values could be directly compared with those in the primary production series was 1967-68; in that year for example, the net value of production for the rural group of primary industries (\$62.7m) was approximately one third of the corresponding manufacturing figure (\$198.0m). A somewhat similar relativity can be observed in 1968-69 between net value of production for the rural group of primary industries (\$74.1m) and value added in the manufacturing sector (\$197.5m). Thus, even if a direct comparison cannot be made, it is still possible to draw very broad conclusions about the relative economic significance of various types of activity by examining the net value of production series in Chapter 8 and the value added series in this section.

### Other Comparisons

The next table combines the results of the five simultaneous censuses to show the derivation of value added:

**Integrated Economic Censuses, 1968-69: Derivation of Value Added**  
(\$ million)

Classification of establishments (a)	Turnover	Stocks at 30 June		Purchases, transfers in and selected expenses	Value added (b)
		1968	1969		
	(1)	(2)	(3)	(4)	(5)
Mining .. .. .	63.1	8.1	9.5	20.1	44.3
Manufacturing .. .. .	487.1	94.6	104.7	299.7	197.5
Electricity and gas .. .. .	34.8	5.1	4.7	0.9	33.4
Wholesaling .. .. .	308.6	39.1	42.4	250.7	61.2
Retailing .. .. .	340.4	38.8	42.3	264.5	79.4
Selected services (c) .. .. .	48.8	1.3	1.4	27.1	21.7
Total .. .. .	1 282.7	187.0	204.9	863.1	437.5

(a) As defined in the Australian Standard Industrial Classification.

(b) (5) = (1) minus (2) plus (3) minus (4).

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hair-dressing and beauty salons.

The following table shows the number of establishments, persons employed and wages and salaries:

**Integrated Economic Censuses, 1968-69: Number of Establishments, Persons Employed and Wages and Salaries**

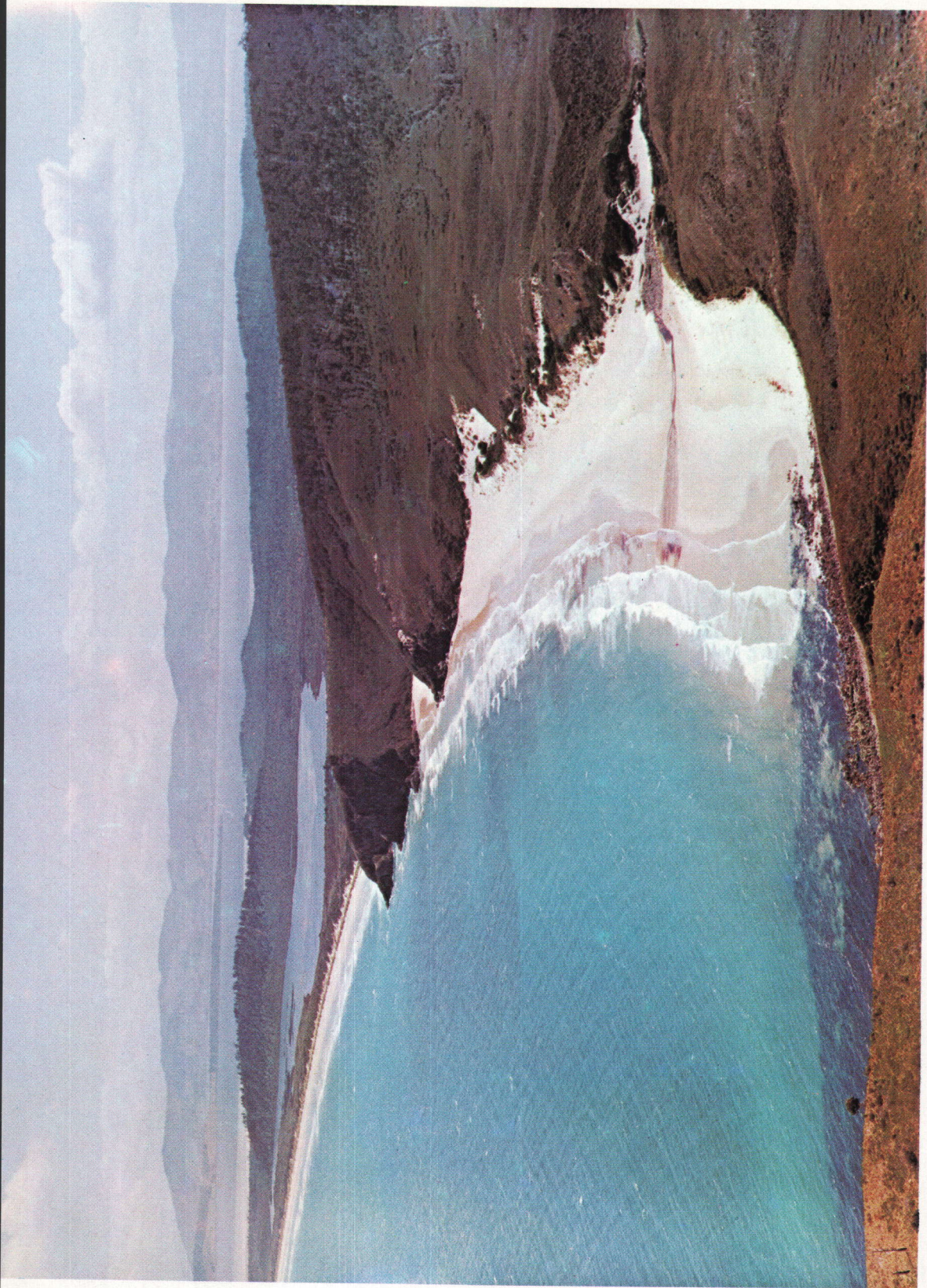
Classification of establishments (a)	Number of establishments at 30 June	Persons employed (b)			Wages and salaries
		Males	Females	Persons	
		no.	no.	no.	\$m
Mining .. .. .	75	3 932	145	4 077	17.2
Manufacturing .. .. .	951	25 340	6 729	32 069	95.1
Electricity and gas .. .. .	5	2 432	194	2 626	10.6
Wholesaling .. .. .	920	6 826	1 949	8 775	23.6
Retailing .. .. .	4 007	10 871	10 004	20 875	31.5
Selected services (c) .. .. .	850	2 567	3 488	6 055	9.2
Total .. .. .	6 808	51 968	22 509	74 477	187.1

(a) As defined in the Australian Standard Industrial Classification.

(b) At last pay day in June; includes working proprietors and unpaid helpers.

(c) Comprises: picture theatres, restaurants, licensed hotels and clubs, laundries, dry cleaners, hair-dressing and beauty salons.





Moorina Bay, Bruny Island

(By permission of Tasmanian Directorate of Industrial Development)

[Dept of Film Production]





Legislative Council: The Upper House of the Tasmanian Parliament

[Dept of Film Production]

(By permission of Tasmanian Directorate of Industrial Development)



## Developments After the 1968-69 Censuses

Principal items from economic censuses conducted after 1968-69 follow:

**Mining, Manufacturing, Electricity and Gas Censuses, 1969-70 to 1973-74: Number of Establishments, Employment, Wages and Salaries and Value Added**

ASIC classification of establishments and year				Number of establish- ments at 30 June	Persons employed at 30 June	Wages and salaries	Value added
					no.	\$'000	\$'000
Mining—	1969-70	..	..	78	4 312	18 544	44 286
	1970-71	..	..	59	4 660	22 641	58 096
	1971-72(a)	..	..	53	4 640	25 521	59 317
	1972-73	..	..	48	4 326	28 091	62 186
	1973-74	..	..	56	4 317	30 623	85 321
Manufacturing (b)—	1969-70	..	..	945	32 414	102 104	226 083
	1971-72	..	..	933	31 144	119 411	245 068
	1972-73	..	..	912	31 504	130 703	283 420
	1973-74 <sup>p</sup>	..	..	933	32 164	161 814	340 419
Electricity and gas (b)—	1969-70	..	..	6	2 754	11 965	38 722
	1971-72	..	..	5	2 971	14 658	45 749

(a) The 1971-72 Census results excluded 'small' tin miners whose sales were less than \$20 000.

(b) No economic census for 1970-71.

Attention is called to the 1973-74 Retail Census described earlier in this chapter. Persons employed numbered 27 957 and wages and salaries amounted to \$72.3m. However, insufficient data were collected to allow calculation of 'value added'.

## Chapter 11

### TRANSPORT AND COMMUNICATION

#### PORT AUTHORITIES

##### Introduction

Tasmania has a number of ports capable of accommodating overseas vessels; they are sited on the Derwent and Huon Rivers in the South (Hobart and Port Huon); in Spring Bay on the east coast; on the Tamar in the north (Inspection Head, Long Reach and Bell Bay); on the Mersey (Devonport), in Emu Bay (Burnie) and at Port Latta, all in the north-west. All these ports provide depths of approximately 9 metres or more of water at berths; Port Latta provides a depth of 16 metres nearly one and a half kilometres off-shore.

Interstate and intrastate trade passes through the main ports and operates as well through ports at Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island).

This section deals primarily with the authorities which control the harbours but a brief description is given of the main ports.

##### Port of Hobart

###### *Location*

The approach to the Derwent and the Port of Hobart is made through a very wide strait between Cape Queen Elizabeth (Bruny Island) and Cape Raoul (Tasman Peninsula), approximately 50 kilometres south-east from the city. The mouth of the Derwent, five and a half kilometres wide, lies 19 kilometres south-east of the port which is built upstream on the western bank in a U-shaped cove; the opposite bank lies two and a half kilometres away to the east. The shores of the Derwent and the arms of the cove act as natural breakwaters.

###### *Description*

The present main port of Hobart is extremely compact, being U-shaped with only 610 metres or less separating the southern and northern arms. The southern arm is devoted to Princes Wharf with berths numbered one to four; the centre contains Elizabeth Street Pier and Kings Pier while the northern arm is made up of the Macquarie Wharf complex. Most wharves and sheds in the main port are of concrete and steel construction. The Elizabeth Street Pier was converted for use as a passenger terminal in early 1975 following the collapse of the Tasman Bridge. A tanker berth, formerly sited at Macquarie Point, was decommissioned and the whole area was redeveloped to provide additional berths (Macquarie Wharves five and six). Within a week of its completion in early November 1975, the Macquarie No. six shed was gutted by a fire which extensively damaged the \$450 000 construction. The 'Seaway' class vessels have begun using the new Macquarie berths.

Princes No. 1 and No. 4 berths are specialised terminals with a drive-on ramp and vehicle marshalling areas. The berths accommodate the 'Trader' class coastal vessels and the roll-on roll-off vessel *Mary Holyman* which operates on the Hobart-Adelaide service.

The most striking feature of the Port of Hobart is the ease with which large vessels can be brought to berth. Tides present no problem, the rise and fall being 1.37 metres (average approximately 0.61 metres), and dredging of approach channels has never been necessary.

### *Subsidiary Ports*

In addition to the main port in the heart of the city, there are a number of subsidiary outlets serving the south of the State. Port Huon wharf, located on the west bank of the Huon River near Geeveston, is in the centre of the principal orcharding area and used mainly for fruit exports. Also based on the Huon River (at Hospital Bay) is the A.P.M. Ltd private wharf (for export of paper pulp). At the port of Spring Bay, near Triabunna on the east coast, accommodation has been provided for bulk carriers loading woodchips for Japan. In the Derwent itself, four kilometres upstream from the main port, is a tanker berth at Selfs Point where bulk petrol and oil are stored; tankers pass under the 47 metre high navigation span of the Tasman Bridge on their way to Selfs Point.

The Selfs Point area is being developed as a petroleum products storage area and has replaced the Macquarie Wharf facilities as Hobart's petroleum installation. One and a half kilometres upstream from Selfs Point is the Electrolytic Zinc Company Ltd private wharf at Risdon. At Boyer, located nearly 32 kilometres upstream from the main port, is the Australian Newsprint Mills Ltd plant. Newsprint is ferried to the main port by barge.

### *Administration*

The Marine Board of Hobart is the authority controlling the main ports of Hobart, Port Huon and the Port of Spring Bay. When the Marine Board of Strahan ceased to function on 30 September 1970, Parliament extended the responsibilities of the Marine Board of Hobart to cover the control and operation of the Port of Strahan. The Board's jurisdiction covers the west, south and east coasts of Tasmania between the parallel of  $41\frac{1}{2}^{\circ}$  south latitude and Cape Portland.

### *Works Programme*

The 1974-75 works programme included: (i) the construction of a new passenger ferry terminal at Bellerive; (ii) the conversion of Elizabeth Street Pier to a passenger ferry terminal; (iii) the conversion of the northern side of Murray Street Pier as an interim ferry passenger terminal; (iv) the construction of a new 15.2 m wide launching ramp on the Domain foreshore; (v) extensive repair work on the existing Domain ramp due to damage caused by landing craft; (vi) the strengthening of Macquarie No. 3 Wharf apron; (vii) the completion of Macquarie No. 5 roll-on roll-off berth, the associated cargo transit shed and large sealed cargo marshalling area; and (viii) the continuation of the construction of Macquarie No. 6 roll-on roll-off berth and cargo facilities.

## **Port of Launceston**

### *Location*

The port of Launceston is situated on the River Tamar, which originates at the confluence of the North and South Esk Rivers at the City of Launceston and flows 60 kilometres to Bass Strait where deep water and broad expanses of river

provide a valuable natural harbour. In this area, encompassing Bell Bay, Inspection Head and Long Reach, are located the major activities of the Port of Launceston. A tidal range of between three and 3.6 metres creates strong tidal currents, which by natural scour eliminate the need for any maintenance dredging in the lower reaches of the river.

Because extensive areas of deep water frontage are available, the development of the port is decentralised with the main operations located as follows:

- (i) *Bell Bay*: Wharves include two tanker berths, a general cargo and bulk berth, a passenger berth, roll-on roll-off facilities and a special bulk berth serving Comalco Aluminium Ltd. One roll-on roll-off berth serves Australian National Line vessels and a common-user roll-on roll-off berth is also available. The Bell Bay site is on the eastern shore, some 13 kilometres upstream from the mouth of the Tamar. The Bell Bay and Long Reach areas have been linked to the railway system.
- (ii) *Long Reach*: Port facilities have been developed upstream from Bell Bay, the main function being export of woodchips from adjacent plants.
- (iii) *Inspection Head*: Overseas berths on the western bank, opposite Bell Bay, for shipment of fruit, frozen meat and general cargo. Large cool storage and freezer facilities are provided as well as bulk storage and special loading facilities for tallow.
- (iv) *Kings Wharf, Launceston*: Berths for inter and intrastate trade; facilities also include a graving dock and fitting-out berths for small ship docking and repair.

#### *Description*

All berths and facilities now in service in the port have been constructed since about 1950 and are, therefore, of modern standard.

Channel and lighting improvements in the lower reaches, have been carried out over recent years, permitting vessels drawing up to 10.67 metres to work the river for 16 kilometres from Bass Strait to the site of the new woodchip berths in Long Reach. The channel improvement works have been designed to provide for the rapidly growing industrial complex at Bell Bay which is creating an ever increasing demand for large bulk carriers.

#### *Administration*

The port is administered by the Port of Launceston Authority whose jurisdiction covers the full length of the River Tamar, together with the northern coastline westward to Badger Head and eastward to Cape Portland.

### **Port of Devonport**

#### *Location*

The Port of Devonport is situated on the Mersey River within two kilometres of the coast. The entrance is sheltered by Mersey Bluff on the west and by a retaining wall extending over half a kilometre northward from the eastern shore of the river. The river was always a natural harbour for small craft and its development as a major port by extensive dredging and engineering works has resulted in a secure harbour for large ships.

#### *Description*

The main harbour is formed around two turning basins each 259 metres in diameter with wharves on both banks providing 1 067 lineal metres of berthage.

The western bank contains four overseas and interstate berths and one specialised cattle jetty. These berths are provided with storage sheds, oil pipelines, wheat silos, bulk cement silos, as well as one of the largest and most modern cold storage facilities in the State. Provision has also been made for the handling of bulk commodities and heavy lifts while all berths are connected to the railway network.

Two terminals for roll-on roll-off and container cargo are located on the eastern bank; one is leased to the Australian National Line and the other is a common-user facility. Both are equipped with stern loading ramps and cranes for lift-on lift-off cargo. Extensive vehicle marshalling and cargo assembly areas are provided with land available for expansion. Approximately 100 000 passengers pass through the No. 1 Terminal each year. In July 1972 the *Empress of Australia* replaced the *Princess of Tasmania* on the passenger run to and from Melbourne. The A.N.L. vessels *Melbourne Trader*, *Sydney Trader*, *Brisbane Trader*, and *Townsville Trader* maintain a regular cargo service from both terminals.

A 30 tonne portal travelling crane at No. 2 Berth is capable of handling all types of cargo units. For the speedy handling of bulk cargoes a 14-tonne grab and 40-tonne capacity hopper are available as auxiliaries to the crane. A 30 tonne portainer crane is expected to be in operation at No. 1 Berth east in early 1976. Further extensions of port facilities will depend on proposed expansion by major industries in the area.

### Port of Burnie

#### Location

The ports of Hobart, Launceston and Devonport all lie within the shelter of rivers but the Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackmans Point. Protection from the potentially rough seas of Bass Strait is afforded by two large breakwaters.

#### Description

The shelter necessary for all-weather use of the port is provided by a 380-metre breakwater anchored to Blackmans Point, and running out to sea with a south-east orientation. The wharves are thus protected by the point and by the breakwater from swells coming in from the west or north, the two quarters from which heavy seas are feared. Ocean Wharf is constructed immediately in the lee of the breakwater, the two structures appearing as one, and other berths are provided by piers parallel to the breakwater but lying further south.

An island breakwater sited north-east from the end of Ocean Wharf and consisting of concrete caissons 488 metres long, is orientated south-east and is calculated to give ample protection for up to 610 metres of berthage south of existing piers. An interesting feature is the use of the lee of the island breakwater for a tanker berth for both petroleum and sulphuric acid, the fuel being pumped to the land along a submarine pipe, and the sulphuric acid pumped to the berth over a bridge spanning the gap between the two breakwaters.

A modern passenger and roll-on roll-off cargo terminal handles 500 000 tonnes of general cargo shipped annually by Australian National Line vessels servicing Melbourne and Sydney. The terminal is equipped with a 40 tonne portal crane. A further roll-on roll-off terminal handles general cargo for the Adelaide service. Of the remaining berths, one, owned by the Emu Bay Railway Company, has a heavy duty apron and bulk loading facilities with a loading capacity of 1 000 tonnes per hour. All wharves are connected to the railway system. Regular overseas cargo services to North America, Europe and Asia are a feature of the Port.



**Port Latta (Circular Head)**

A deep-water offshore terminal, capable of accommodating bulk ore carriers, has been constructed at Port Latta for the export of iron ore pellets to Japan. The loading facility consists of a 1.2 metre wide conveyor belt which carries pellets to two swivel loaders located 1.6 kilometres offshore. Vessels moor in 15.8 metres of water to take on pellets, the system having a discharge capacity of about 3 050 tonnes per hour.

**Constitution of Port Authorities***Establishment of Boards*

Operation of Tasmania's chief ports ceased to be a direct function of the Government of the Colony in 1857 when legislation was passed to set up the marine boards of Hobart and Launceston. Each board consisted of five wardens; the mayor and the collector of customs were *ex officio* wardens, the remaining three members being appointed as nominees of the respective Chambers of Commerce. In 1867 the Governor was empowered to create other boards, such bodies to consist of three wardens appointed by the Governor; within a year, boards had been constituted under the titles Mersey, Circular Head and Table Cape.

*Boards of Hobart and Launceston*

The *Marine Boards Act* 1889 created a special electorate for the Hobart and Launceston boards, the nine wardens for each to be elected by ship-owners, importers and exporters. The respective collectors of customs were required annually to compile rolls of these users of the ports and the number of votes each elector could exercise was proportional to his financial interest; for example, an exporter of goods valued from \$400 to \$3 999 had one vote, \$4 000 to \$9 999 two votes, and over \$10 000, three votes. Importers received similar voting powers in proportion to the wharfage paid while ship-owners' votes were proportional to tonnage of their vessels. It was further provided that three wardens should retire annually and the master warden be elected by board members. By an amending Act in 1895, the voting powers of importers were divorced from wharfage paid, and placed on the same basis as those exercised by exporters.

The special electorate just described continues to elect the wardens of the Hobart Marine Board; the scale of values affecting the number of votes to be exercised by importers and exporters also remains unchanged. However, in the case of the marine board for Launceston, the system of the special electorate was abolished in 1902. All Launceston citizens on the rolls for the House of Assembly became eligible to cast single votes, a right extended in 1910 to citizens in the other municipalities bordering the Tamar. In 1916 with the adoption of the Hunter scheme for improvements affecting the whole length of the River, changes were made to increase the number of wardens by representatives from the bordering municipalities. The *Marine Act* 1921 reduced the number of wardens to five, restricted eligibility for standing as warden to citizens of Launceston and changed the voting qualifications so that marine board electors had to be those qualified to vote at an election of aldermen for the City of Launceston. More recently, electors in Beaconsfield and George Town have again been given voting rights.

*Navigation and Survey Authority of Tasmania*

The Authority was constituted in 1963 to implement sections of the *Marine Act* 1921 relating to the safety of life and property at sea. Member marine boards contribute equally to the costs of running the Authority; the income is derived from survey and service fees.

*Constitution of Boards*

The present system of choosing wardens is summarised as follows:

**Election or Appointment of Port Authorities**

Authority	Number of wardens	System of election or appointment of wardens
Hobart Marine Board .. ..	9	Special electorate of ship-owners, importers and exporters
Port of Launceston Authority ..	5	Electors of Launceston, Beaconsfield and George Town as for local government elections
Burnie Marine Board .. ..	8	} Municipal electors within proclaimed areas
Devonport Marine Board .. ..	11	
Circular Head Marine Board ..	5	
King Island Marine Board .. ..	5	
Flinders Island Marine Board ..	3	Municipal electors

**Finances of Port Authorities**

**Port Authorities**  
**Receipts and Expenditure: All Funds, 1973-74**  
 (\$'000)

Particulars	Authority							Total
	Hobart	Launceston	Devonport	Burnie	Circular Head (a)	King Island	Flinders Island	
REVENUE FUNDS								
Receipts—								
Wharfage charges ..	1 239	1 178	1 091	1 177	63	50	32	4 830
Other service charges	382	1 400	409	351	49	8	3	2 602
Plant hire .. ..	581	499	202	272	..	8	..	1 562
Government grants..	16	..	..	..	11	21	..	48
Other (b) .. ..	456	299	209	145	2	6	..	1 117
Total .. ..	2 674	3 376	1 911	1 945	125	93	35	10 159
Payments (c)—								
Administration ..	327	371	169	253	10	15	1	1 146
Debt charges—								
Interest .. ..	108	587	441	742	66	5	12	1 961
Redemption and sinking fund contributions ..	323	344	306	390	30	5	3	1 401
Works and services	1 021	1 474	714	516	19	31	10	3 785
Other .. ..	393	350	189	62	4	16	3	1 017
Total .. ..	2 172	3 126	1 819	1 963	129	72	29	9 310
LOAN FUNDS								
Receipts, loan raisings, etc. .. ..	2 180	331	500	..	5	51	..	3 067
Payments (d) .. ..	1 714	707	442	234	7	45	1	3 150

(a) The Smithton Harbour Trust Dissolution Act of 1972 provided for the dissolution of the Trust and the transfer of its property and functions to the Circular Head Marine Board. These transfers were completed in 1973-74.

(b) Includes interest receipts, sundry licences, fines and discounts received.

(c) Excludes amounts applied from reserves for capital purposes.

(d) Includes amounts applied from reserves for capital purposes.

The preceding table gives details of revenue and expenditure for each port authority in 1973-74.

The principal sources of revenue of the port authorities are shipping tonnage rates and import and export wharfage rates; other sources are charges for pilotage services and the hiring of equipment. Expenditure is summarised under the heading 'works and services' which includes the provision of ordinary port services (e.g. pilotage, tug assistance, etc.), the maintenance of the port (e.g. dredging, etc.) and the improvement of the port (e.g. new wharves, new berths etc.). To raise the additional funds required to finance port improvements, the authorities borrow money subject to State Treasury approval, the Treasury acting on behalf of the Australian Loan Council.

The next table summarises the transactions of all port authorities for the years 1969-70 to 1973-74:

**Port Authorities**  
**Receipts and Expenditure: Summary**  
**(\$'000)**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>REVENUE FUNDS</b>					
Receipts—					
Wharfage charges .. .. .	3 565	3 660	3 881	4 419	4 830
Other service charges .. .. .	1 839	1 880	2 098	2 380	2 602
Plant hire .. .. .	982	1 085	1 268	1 481	1 562
Government grants .. .. .	30	30	57	107	48
Other (a) .. .. .	642	477	449	620	1 117
Total .. .. .	7 058	7 133	7 752	9 007	10 159
Payments (b)—					
Administration .. .. .	625	803	861	911	1 146
Debt charges—					
Interest .. .. .	1 403	1 564	1 738	2 021	1 961
Redemption and sinking fund contributions .. .. .	897	971	1 106	1 202	1 401
Works and services .. .. .	2 554	2 618	2 928	2 761	3 785
Other .. .. .	344	411	562	472	1 017
Total .. .. .	5 822	6 366	7 194	7,367	9 310
<b>LOAN FUNDS</b>					
Receipts—					
Loan raisings .. .. .	3 910	4 471	4 590	3 455	3 021
Other .. .. .	20	..	7	2	46
Total .. .. .	3 930	4 471	4 597	3 457	3 067
Payments (c) .. .. .	4 140	5 042	5 261	4 805	3 150

(a) Includes interest receipts, sundry licences, fines and discounts received.

(b) Excludes amounts applied from reserves for capital purposes.

(c) Includes amounts applied from reserves for capital purposes.

The following table gives the loan debts of port authorities at the end of the financial year for recent years:

**Port Authorities**  
**Loan Debt of Principal Authorities at End of Year**  
**(\$'000)**

Authority	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
Hobart .. .. .	2 760	3 394	4 378	5 885	6 627	8 399
Launceston .. .. .	4 399	5 200	6 504	7 441	9 196	9 219
Devonport .. .. .	5 766	6 404	6 921	7 118	7 160	7 374
Burnie .. .. .	10 782	11 554	12 462	12 950	12 722	12 377
Other .. .. .	669	912	792	1 254	1 268	(a) 1 287
Total .. .. .	24 376	27 464	31 057	34 648	36 973	38 656

(a) Comprised: Circular Head, \$996 000; Flinders Island, \$187 000; King Island, \$104 000.

The next table shows a summary of annual borrowings, aggregate debt and the provision for loan redemption.

**Port Authorities**  
**Loan Raisings, Loan Debt and Provisions for Redemption**  
**(\$'000)**

Year	Total loan raisings during year (a)	Loan debt at end of year			Provisions for loan redemption at end of year (b)
		To State Government	To other creditors	Total	
1963-64 .. .. .	2 631	..	14 737	14 737	221
1964-65 .. .. .	2 842	..	17 102	17 102	300
1965-66 .. .. .	2 055	..	18 617	18 617	366
1966-67 .. .. .	2 310	..	20 361	20 361	525
1967-68 .. .. .	2 598	..	22 249	22 249	608
1968-69 .. .. .	2 837	..	24 376	24 376	683
1969-70 .. .. .	3 910	..	27 464	27 464	743
1970-71 .. .. .	4 471	..	31 057	31 057	874
1971-72 .. .. .	4 590	..	34 648	34 648	999
1972-73 .. .. .	3 455	..	36 973	36 973	1 151
1973-74 .. .. .	3 061	..	38 656	38 656	1 315

(a) No loans were raised from the State Government during the period covered by the table.

(b) Balance of sinking funds and loan redemption provision accounts at end of year.

## SHIPPING AT TASMANIAN PORTS

### System of Record

The shipping statistics contained in this section were compiled on a new basis from 1 July 1966 and are not fully comparable with statistics published for previous periods. Prior to this date, shipping statistics were compiled from details assembled and supplied by the Department of Customs and Excise and by State port authorities. Since 1966-67 Tasmanian shipping statistics have been compiled from details submitted by shipping companies or their representatives, through the Department of Customs and Excise, for each arrival and each departure of a vessel. Not all vessels which arrived at, and departed from, ports in Tasmania are included in the new series of shipping statistics; the following are now excluded:

- (i) naval vessels;
- (ii) yachts and other craft used for pleasure;
- (iii) foreign fishing vessels that neither load nor discharge cargo;
- (iv) Australian-registered fishing vessels operating from Tasmanian ports;
- (v) geographical, seismic and oceanographic survey vessels;
- (vi) offshore oil drilling rigs and vessels servicing them; and
- (vii) vessels of 200 registered net tons and under.

#### *Movements of Vessels*

The inward and outward movements of vessels using Tasmanian ports were classified according to type of voyage and not according to the type of vessel. Each movement of a vessel was allocated to one of the following:

- (i) overseas direct;
- (ii) overseas via other state;
- (iii) interstate direct;
- (iv) overseas via port in Tasmania;
- (v) interstate via port in Tasmania; and
- (vi) intrastate.

Addition of the first three classifications (overseas and interstate movements) gives an unduplicated total for Tasmania. The inclusion of the other three classifications (intrastate or coastal movements) must be taken into account to reflect the volume of shipping arriving at, or departing from, individual ports in Tasmania.

However, in 1969-70, it was decided that classification by type of voyage was unsatisfactory in two particular categories, namely:

- (ii) overseas via other state; and
- (iii) interstate direct.

While vessels confining their operations to Australian waters could never be associated with category (ii), it was nevertheless possible for vessels engaged in overseas voyages to undertake movements classified under category (iii). For example, a ship bound for the U.K. could be sailing Sydney-Hobart-Melbourne-London. The arrival in Hobart, under the pre-1969-70 classification, could be called 'interstate direct' as would the arrival in Melbourne.

For 1969-70 and following years, the classification has been varied so that categories (ii) and (iii) are based on the type of vessel, not on the type of movement. Thus, in terms of the previous example, the U.K.-bound ship's arrival both in Hobart and Melbourne would be classified 'overseas via other state', and not 'interstate direct'.

#### *Tonnage of Vessels*

Statistics of vessels are compiled in terms of registered net tonnage. This is an international unit of measurement of a vessel's carrying capacity. (There is no recognised equivalent in the metric system of net tonnage.) Net tonnage is expressed in units of 100 cubic feet (i.e. 100 cubic feet equals 1 ton) and it represents the volume of enclosed space which can be utilised for cargo or passengers.

### **Overseas and Interstate Shipping**

#### *Definitions*

The classification 'overseas' in the following table is now much more meaningful since, from 1969-70, the category 'interstate direct' is not used to describe movements of ships engaged in overseas travel voyaging from one Australian

state to another; the category now used is 'overseas via other state'. The details are also restricted to entries classified as overseas and interstate movements and in each case the figures are lower than those shown in a later table which includes intrastate movements.

Vessels Entered Ports in Tasmania (a), 1973-74

Port of entry	Overseas				Interstate direct		Total vessels entered	
	Direct		Via other state					
	No.	Net tons ('000)	No.	Net tons ('000)	No.	Net tons ('000)	No.	Net tons ('000)
Hobart .. ..	64	666	91	475	321	650	476	1 791
Burnie .. ..	11	45	58	466	227	591	296	1 102
Currie .. ..	..	..	1	..	5	1	6	1
Devonport .. ..	4	8	21	99	403	1 042	428	1 149
Lady Barron .. ..	..	..	..	..	3	1	3	1
Launceston .. ..	58	1 238	60	267	261	800	379	2 305
Stanley .. ..	36	746	7	128	..	..	43	874
Total .. ..	173	2 703	238	1 435	1 220	3 085	1 631	7 223

(a) Excludes intrastate shipping.

The next table gives a ten-year summary:

Shipping: Overseas and Interstate (a), Summary  
Vessels Entered Ports in Tasmania

Year			Overseas				Interstate direct		Total vessels entered	
			Direct		Via other state					
			No.	Net tons ('000)	No.	Net tons ('000)	No.	Net tons ('000)	No.	Net tons ('000)
1964-65	..	..	83	281	238	994	1 151	2 136	1 472	3 412
1965-66	..	..	123	331	264	1 092	1 258	2 464	1 645	3 887
1966-67 (b)	..	..	87	321	160	715	1 437	3 049	1 684	4 085
1967-68	..	..	67	252	146	635	1 463	3 215	1 676	4 102
1968-69	..	..	81	580	134	672	1 580	3 393	1 795	4 645
1969-70 (b)	..	..	113	996	462	2 035	1 184	2 543	1 759	5 574
1970-71	..	..	110	952	297	1 467	1 232	2 920	1 639	5 338
1971-72	..	..	117	1 209	267	1 443	1 370	3 285	1 754	5 937
1972-73	..	..	172	2 156	308	1 531	1 308	3 552	1 788	7 239
1973-74	..	..	173	2 703	238	1 435	1 220	3 085	1 631	7 223

(a) Excludes intrastate shipping.

(b) Not fully comparable with previous years; see beginning of this section for explanations.

### Comparability

In the previous table, breaker bars are inserted to show the break in comparability between 1968-69 and 1969-70. However, there is no break in comparability affecting the columns under 'total vessels entered'. The effect of the definitional change is simply to transfer certain movements of overseas vessels from 'interstate direct' to the category 'overseas via other state'.

The following table has been compiled to show the country of registration of vessels entering all ports in Tasmania. The number of vessels and net tonnage figures shown in this table cannot be added to arrive at a State total as some vessels may have called at two or more ports within the State during the same voyage and are therefore subject to double, triple, etc., counting.

**Country of Registration of Vessels Entered Tasmanian Ports: Overseas, Interstate and Intrastate**

Country of registration	Vessels entered Tasmanian ports					
	1971-72		1972-73		1973-74	
	Number	Net tons	Number	Net tons	Number	Net tons
Australia .. .. .	1 613	4 035 310	1 472	4 023 306	1 307	3 477 540
Bahama Islands .. .. .	..	..	2	814	5	2 035
Belgium-Luxembourg .. .. .	2	57 467	1	29 500	..	..
Bermuda .. .. .	..	..	1	6 121	..	..
Cyprus .. .. .	5	21 337	6	27 584	1	4 983
Denmark .. .. .	5	17 478	35	90 521	15	84 712
Finland .. .. .	2	12 632	..	..	..	..
Germany, F.R. .. .. .	24	110 520	21	109 047	9	28 248
Greece .. .. .	11	97 153	21	177 150	20	335 067
Hong Kong .. .. .	12	25 608	14	37 063	6	12 804
India .. .. .	21	100 403	12	53 235	13	58 669
Indonesia .. .. .	6	14 990	9	23 001	6	14 645
Israel .. .. .	1	4 833	5	24 127	4	14 121
Italy .. .. .	3	36 214	4	36 125	6	74 161
Japan .. .. .	32	459 782	69	1 098 983	57	1 128 711
Korea, Republic of .. .. .	..	..	..	..	1	6 169
Liberia .. .. .	37	512 154	39	635 981	57	872 117
Nauru .. .. .	..	..	..	..	8	73 947
Netherlands .. .. .	29	182 721	26	150 412	32	160 668
Netherlands Antilles .. .. .	3	16 956	..	..	..	..
New Zealand .. .. .	27	54 311	22	46 031	21	41 698
Norway .. .. .	26	166 298	43	212 791	15	142 258
Panama .. .. .	18	56 917	17	75 863	15	288 622
Papua New Guinea .. .. .	2	1 112	1	556	1	1 737
Philippines .. .. .	4	14 999	3	4 941	1	1 647
Poland .. .. .	20	78 078	25	99 867	11	43 186
Singapore .. .. .	15	58 428	16	108 419	18	40 755
South Africa .. .. .	1	5 652	1	5 652	..	..
Spain .. .. .	..	..	1	2 443	..	..
Sweden .. .. .	28	186 248	24	140 395	22	120 823
Taiwan .. .. .	..	..	1	5 641	..	..
United Kingdom .. .. .	182	631 886	227	781 383	186	702 196
United States of America .. .. .	13	93 406	15	122 258	20	374 120
U.S.S.R. .. .. .	2	4 171	7	20 669	5	27 682
Yugoslavia .. .. .	5	29 232	9	46 568	4	19 200

The next table shows the number and net tonnage of vessels which entered individual Tasmanian ports during 1973-74. The names of ports in this table refer to the cities or towns in which the controlling port authorities are located:

- (i) 'Hobart' includes Port Huon, Port of Spring Bay and Strahan;
- (ii) 'Launceston' includes Bell Bay, Long Reach and Inspection Head;
- (iii) 'Devonport' includes Ulverstone;
- (iv) 'Stanley' includes Port Latta;
- (v) 'Currie' includes Naracoopa and Grassy; and
- (vi) 'Lady Barron' includes Whitemark.



A State total of number of vessels entered and their net tonnage cannot be obtained from the next table by adding the port totals since vessels falling within the categories 'overseas via other Tasmanian port', 'interstate via other Tasmanian port' and 'intrastate' will be counted at each port of entry as a 'vessel entered'.

**Shipping: Overseas, Interstate and Intrastate  
Vessels Entered Tasmanian Ports, 1973-74**

Port (a) of entry and type of service (b)		Vessels entered					
		With cargo		In ballast		Total	
		No.	Net tons	No.	Net tons	No.	Net tons
Hobart—	Overseas direct .. ..	33	149 559	31	516 168	64	665 727
	Overseas via other state ..	80	399 697	11	75 378	91	475 075
	Overseas via other Tasmanian port .. ..	22	224 128	..	..	22	224 128
	Interstate direct .. ..	245	529 713	76	119 996	321	649 709
	Interstate via other Tasmanian port .. ..	16	29 008	1	954	17	29 962
	Intrastate .. ..	38	62 030	3	2 202	41	64 232
	Total Hobart .. ..	434	1 394 135	122	714 698	556	2 108 833
Burnie—	Overseas direct .. ..	8	29 113	3	16 009	11	45 122
	Overseas via other state ..	55	456 707	3	9 361	58	466 068
	Overseas via other Tasmanian port .. ..	8	34 023	..	..	8	34 023
	Interstate direct .. ..	162	477 582	65	113 559	227	591 141
	Interstate via other Tasmanian port .. ..	39	150 597	1	1 892	40	152 489
	Intrastate .. ..	5	11 438	10	14 887	15	26 325
	Total Burnie .. ..	277	1 159 460	82	155 708	359	1 315 168
Currie—	Overseas via other state ..	1	285	..	..	1	285
	Interstate direct .. ..	5	1 472	..	..	5	1 472
	Intrastate .. ..	12	22 343	..	..	12	22 343
	Total Currie .. ..	18	24 100	..	..	18	24 100
Devonport—	Overseas direct .. ..	..	..	4	8 263	4	8 263
	Overseas via other state ..	19	91 256	2	7 419	21	98 675
	Overseas via other Tasmanian port .. ..	1	4 791	..	..	1	4 791
	Interstate direct .. ..	331	949 070	72	93 411	403	1 042 481
	Interstate via other Tasmanian port .. ..	16	126 691	..	..	16	126 691
	Intrastate .. ..	..	..	3	18 215	3	18 215
	Total Devonport .. ..	367	1 171 808	81	127 308	448	1 299 116
Lady Barron—	Interstate direct .. ..	3	886	..	..	3	886
	Intrastate .. ..	15	4 424	1	294	16	4 718
	Total Lady Barron .. ..	18	5 310	1	294	19	5 604
Launceston—	Overseas direct .. ..	7	56 494	51	1 181 901	58	1 238 395
	Overseas via other state ..	53	203 840	7	62 798	60	266 638
	Overseas via other Tasmanian port .. ..	17	97 292	..	..	17	97 292
	Interstate direct .. ..	258	790 386	3	9 452	261	799 838
	Interstate via other Tasmanian port .. ..	20	88 771	..	..	20	88 771
	Intrastate .. ..	2	592	2	4 637	4	5 229
	Total Launceston .. ..	357	1 237 375	63	1 258 788	420	2 496 163

**Shipping: Overseas, Interstate and Intrastate  
Vessels Entered Tasmanian Ports, 1973-74—continued**

Port (a) of entry and type of service (b)		Vessels entered					
		With cargo		In ballast		Total	
		No.	Net tons	No.	Net tons	No.	Net tons
Stanley—	Overseas direct .. ..	5	42 612	31	703 836	36	746 448
	Overseas via other state ..	3	26 550	4	101 739	7	128 289
	Overseas via other Tasmanian port .. ..	3	28 800	..	..	3	28 800
	Total Stanley .. ..	11	97 962	35	805 575	46	903 537

(a) See introduction to this table.

(b) Type of service ('overseas direct', etc.) is defined under 'Movements of Vessels' at the beginning of this section.

The following table shows, in summary form, the number and net tonnage of vessels which entered Tasmanian ports during the last three years:

**Shipping: Overseas, Interstate and Intrastate  
Vessels Entered Tasmanian Ports**

Port (a) of entry	1971-72		1972-73		1973-74	
	Number	Net tons	Number	Net tons	Number	Net tons
Hobart .. .. .	626	2 052 578	612	2 116 689	556	2 108 833
Burnie .. .. .	425	1 542 214	430	1 401 499	359	1 315 168
Currie .. .. .	42	26 028	70	49 967	18	24 100
Devonport .. .. .	493	1 047 968	487	1 727 768	448	1 299 116
Lady Barron .. .. .	51	30 582	30	12 875	19	5 604
Launceston .. .. .	468	1 613 664	464	1 984 933	420	2 496 163
Stanley .. .. .	44	773 262	56	902 716	46	903 537

(a) See explanation in introduction to previous table.

**Cargo Discharged and Shipped (a)  
Individual Tasmanian Ports, 1973-74**

Port	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
<b>DISCHARGED</b>						
Hobart .. ..	222 026	9 935	615 275	217 859	837 301	227 794
Burnie .. ..	101 105	1 205	231 243	293 286	332 348	294 491
Currie .. ..	..	..	1 274	1 520	1 274	1 520
Devonport .. ..	34 327	42	125 294	700 908	159 621	700 950
Lady Barron .. ..	..	..	74	74	74	..
Launceston .. ..	96 082	2 508	600 998	307 124	697 080	309 632
Stanley .. ..	55 448	..	..	..	55 448	..
Total .. ..	508 988	13 690	1 574 158	1 520 697	2 083 146	1 534 387

**Cargo Discharged and Shipped (a)**  
**Individual Tasmanian Ports, 1973-74—continued**

Port	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
<b>SHIPPED</b>						
Hobart .. .. .	794 905	50 179	516 671	169 902	1 311 576	220 081
Burnie .. .. .	184 277	558	352 899	170 504	537 176	171 062
Currie .. .. .	..	..	2 139	1 645	2 139	1 645
Devonport .. .. .	19 427	3 346	241 849	713 015	261 276	716 361
Lady Barron .. .. .	..	..	..	..	..	..
Launceston .. .. .	1 624 644	13 696	169 573	261 220	1 794 217	274 916
Stanley .. .. .	2 268 695	..	..	..	2 268 695	..
Total .. .. .	4 891 948	67 779	1 283 131	1 316 286	6 175 079	1 384 065

(a) Cargo statistics are compiled in units of weight or volume depending on the units in which the details were originally reported. It is therefore *not* possible to provide statistics for total cargo using a single unit of measurement.

In the previous table, details are given of the cargo handled at each port in Tasmania. The classifications 'overseas' and 'interstate' relate either to the origin or destination of the cargo.

Cargo handled at ports is recorded in terms of units of weight or units of volume depending on the basis on which freight is charged. In these statistics separate details are shown in tonnes for cargo recorded in units of weight and in cubic metres for cargo recorded in units of volume.

The following table gives a summary of overseas and interstate cargo discharged and shipped at Tasmanian ports:

**Cargo Discharged and Shipped, All Tasmanian Ports (a)**

Year	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
<b>DISCHARGED</b>						
1964-65 .. .. .	395 016	82 047	1 031 488	676 585	1 426 504	758 632
1965-66 .. .. .	341 087	39 580	1 114 755	802 922	1 455 842	842 502
1966-67 (b) .. .. .	378 729	46 301	1 507 095	948 843	1 885 824	995 144
1967-68 .. .. .	264 914	46 736	1 607 425	1 034 153	1 872 339	1 080 889
1968-69 .. .. .	246 826	53 225	1 752 557	1 088 925	1 999 383	1 142 150
1969-70 .. .. .	327 242	51 102	1 682 528	1 240 547	2 009 770	1 291 649
1970-71 .. .. .	414 304	29 664	1 702 148	1 228 912	2 116 452	1 258 576
1971-72 .. .. .	375 197	17 852	1 825 406	1 350 451	2 200 603	1 368 303
1972-73 .. .. .	516 891	18 883	1 684 286	1 438 171	2 201 177	1 457 054
1973-74 .. .. .	508 988	13 690	1 574 158	1 520 697	2 083 146	1 534 387

## Cargo Discharged and Shipped, All Tasmanian Ports (a)—continued

Year	Overseas		Interstate		Total	
	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres	Tonnes weight	Cubic metres
SHIPPED						
1964-65 .. .. .	198 528	224 791	672 550	586 646	871 078	811 437
1965-66 .. .. .	206 075	244 971	647 178	600 418	853 253	845 389
1966-67 (b) .. .. .	223 702	208 792	629 498	758 517	853 200	967 309
1967-68 .. .. .	277 379	282 402	696 318	855 309	973 697	1 137 711
1968-69 .. .. .	1 618 480	264 051	817 726	913 968	2 436 206	1 178 019
1969-70 .. .. .	2 585 794	104 238	935 089	907 559	3 520 883	1 011 797
1970-71 .. .. .	2 577 912	84 002	991 636	985 409	3 569 548	1 069 411
1971-72 .. .. .	2 919 672	184 107	1 188 696	1 134 175	4 108 368	1 318 282
1972-73 .. .. .	4 417 232	37 232	1 237 236	1 181 601	5 654 468	1 218 833
1973-74 .. .. .	4 891 948	67 779	1 283 131	1 316 286	6 175 079	1 384 065

(a) Statistics for total cargo using a single unit of measurement are not available.

(b) From 1966-67 not comparable with previous years; see beginning of this section for explanation.

## TRANSPORT COMMISSION

## Origin of Commission

The State railways operated at a considerable loss during the period following World War I and this difficulty was accentuated by the increasing use of commercial road transport. The 1938 report of the Commonwealth Grants Commission contained the following comment: 'A large State may conceivably stand the cost of duplicated transport, but it is obvious that Tasmania cannot. We believe that the Tasmanian Government appreciates this position and that it can only be met by initiative and decision'. At the time of this report, railways were controlled by a Minister; motor vehicle registration and licensing of drivers were Police Department functions; and public vehicle licensing was administered by a Transport Committee appointed by the Government.

Following an enquiry, Parliament passed the *Transport Act* 1938 establishing a new authority headed by a Commissioner and two Associate Commissioners. In December 1972 the Act was amended and the number of Associate Commissioners increased to three. The Associate Commissioners' areas of responsibility were: (i) management and operation of railways; (ii) public transport operations and administration and control of road traffic; and (iii) management and operation of shipping services. This Act and subsequent amending legislation had the effect of creating an administrative authority unique in Australia because the management and control of all public transport, with minor exceptions, became the responsibility of one central authority. The government omnibus services in Hobart, Launceston and Burnie and the privately-owned Emu Bay Railway were the exceptions.

*Functions of the Commission*

The functions of the Commission are as follows:

- (i) the regulation and licensing of commercial road transport (i.e. of 'public vehicles');
- (ii) the registration and taxation of motor vehicles and the licensing of drivers;

- (iii) the control and operation of the Bruny Island ferry service and the Flinders Island and King Island shipping services;
- (iv) the administration of regulations under the *Traffic Act* concerning road traffic control;
- (v) the administration and control of State aerodromes;
- (vi) traffic engineering associated with the control of traffic; and
- (vii) control and operation of an engineering plant (known as the 'precision tool annexe').

In brief, the Transport Commission emerges as a *business undertaking*, an *administrative body* and a *taxing authority*.

### Control of Commission

The Commission, by section 6 (2) of the Act, is absolutely free from political control except that the Minister for Transport may, under section 33, appeal to the Governor if dissatisfied with decisions of the Commission. Section 34 allows the Governor, as a form of assistance to industry in certain cases, to direct the Commission to reduce freight charges but, to the extent that such direction causes a revenue loss, the Treasurer is obliged to reimburse the Commission; the formula for reimbursement requires either acceptance of the Commission's original charges as the economic cost of the service or substitution of the Auditor-General's calculation of the economic cost, should the level of the Commission's original charges be considered uneconomic by the Auditor-General.

### Commission's Financial Operations

The revenue of the Commission comes from three main sources: (i) own business undertakings—shipping services and an engineering plant ('precision tool annexe'); (ii) public vehicle licensing fees; and (iii) grants from Consolidated Revenue.

The financial transactions of the Commission are summarised in the tables that follow. For simplicity of presentation, the transactions are arranged in two sets of accounts, firstly Trading and Profit and Loss and secondly Taxation, Licensing, etc. It should be noted that the net loss in the trading and profit and loss account for any year becomes a charge on Consolidated Revenue in the following year; also that the proceeds from motor taxation, registration, licensing etc. are passed to Consolidated Revenue, the Commission being reimbursed the cost of collecting such revenues and the costs and expenses incurred in connection with the control of, and the provision of, facilities for motor traffic. A distinction is drawn, however, between public vehicle fees and public vehicle licensing; the latter charges are taken into the profit and loss account as an offset against net trading loss.

#### Transport Commission: Trading and Profit and Loss Account

(\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74
<b>REVENUE</b>				
Railways (a) .. .. .	6 125	6 326	7 373	7 896
Marine services .. .. .	285	314	573	1 335
Tool annexe .. .. .	370	340	347	360
Public vehicle licensing (by transfer)	80	80	82	88
Other revenue .. .. .	97	121	145	152
Net loss (b) .. .. .	5 830	6 340	7 796	12 129
<b>Total .. .. .</b>	<b>12 788</b>	<b>13 522</b>	<b>16 315</b>	<b>21 960</b>

**Transport Commission: Trading and Profit and Loss Account—continued**  
(\\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74
<b>EXPENDITURE (c)</b>				
Railways (a) .. .. .	10 149	10 587	12 360	15 820
Marine services .. .. .	438	464	767	2 159
Tool annexe .. .. .	341	345	336	390
General, including administration ..	390	463	563	691
Interest .. .. .	1 470	1 663	2 290	2 900
<b>Total .. .. .</b>	<b>12 788</b>	<b>13 522</b>	<b>16 315</b>	<b>21 960</b>

(a) State railway system controlled by Transport Commission up to 1 July 1975.

(b) To be charged against Consolidated Revenue in following year.

(c) Provisions for depreciation included in each item.

The remaining transactions can be summarised as follows (road safety accounts are excluded):

**Transport Commission: Motor Taxation Collection, Licensing, etc.**  
(\\$'000)

Particulars	1970-71	1971-72	1972-73	1973-74
<b>REVENUE</b>				
Motor tax .. .. .	4 683	5 323	5 539	5 941
Public vehicle licensing, fees, etc. . .	439	448	445	459
Registration, licences, etc. ..	1 593	1 631	1 913	2 234
Refunds of stamp duty .. .. .	—1	—1	—1	—1
Stamp duty on vehicle registrations	396	441	514	613
Transfers from Consolidated Revenue—				
Road transport administration	726	685	795	990
Traffic engineering section ..	356	415	475	529
Minister for Transport .. .. .	22	25	27	33
<b>Total .. .. .</b>	<b>8 214</b>	<b>8 967</b>	<b>9 707</b>	<b>10 799</b>
<b>EXPENDITURE</b>				
Profit and loss account (transfers) (a)	80	80	82	88
Paid to Consolidated Revenue ..	7 066	7 789	8 328	9 159
Administration, traffic control, etc.	1 073	1 086	1 280	1 542
<b>Total .. .. .</b>	<b>8 218</b>	<b>8 955</b>	<b>9 690</b>	<b>10 789</b>

(a) Receipts from public vehicle licensing paid into profit and loss account.

Of the total taxes and charges levied on motorists and paid into the Consolidated Revenue Fund, only the motor tax and public vehicle fees components (\$6 338 000 in 1973-74) are transferred by the Treasurer to the State Highways Trust Fund. A part of motor vehicle registration fees, licences, etc. is retained in the Consolidated Revenue Fund.

### Annual Loss

In 1968-69 and earlier years the Commission received two grants from Consolidated Revenue: (i) reimbursement of the previous year's loss; and (ii) a grant equal to State Land Tax collections. From 1969-70, the loss incurred by the

Commission for the previous year has been reimbursed by a single grant from Consolidated Revenue (\$12 129 390, the loss for 1973-74 reimbursed during 1974-75). The accounts reveal that the Commission's net loss occurred principally in respect of railways but the case for continued subsidisation was argued on a number of grounds: (i) abandonment of all railway operations would have left the State with liability for annual debt charges exceeding \$2.4m; (ii) heavy bulk freights now carried by rail would rapidly break up present road surfaces if they were transferred to road haulage, and considerable sums would have to be spent on increased road maintenance or road improvements; and (iii) because rail transport for certain types of freight is still considered more economical than road haulage closing the railways might add appreciably to the costs of many primary and secondary producers.

### Transport Commission Shipping Services

The Transport Commission operates ferry services to Bruny Island and shipping services between King Island, Stanley, Flinders Island, Hobart, Launceston and Victorian ports.

The *Joseph Banks* came into operation in January 1969 and operates on the inter-island run and between Tasmanian and Victorian ports. The vessel handles livestock and general bulk cargoes, including superphosphate and road metal.

In 1971 the State Government purchased the *Straitsman* for the triangular service Stanley-Grassy-Melbourne. However, in March 1974, the vessel sank in the Yarra River and was salvaged in May. The tender for the refitting and reclassification of the vessel was awarded to the Port of Launceston Authority and the *Straitsman* returned to the King Island service in October 1975.

In August 1974 the State Government purchased the Finnish vessel *Rah* a roll-on roll-off vessel with a cargo capacity of some 2 400 tonnes, approximately twice that of the *Straitsman*. The *Rah* commenced service in December 1974 on the triangular run previously serviced by the *Straitsman*. Modifications to enable the *Rah* to continue a roll-on roll-off service were made to the terminals at Melbourne, Stanley and Grassy. These modifications will allow both vessels to use the roll-on roll-off facilities.

During 1973-74 the Commission's shipping services handled 42 961 sheep, 17 263 cattle, and carried 89 408 tonnes of general cargo, 11 332 tonnes of superphosphate and 3 023 tonnes of fuel.

Following the breakdown and withdrawal of one of the ferries serving Bruny Island a replacement ferry is being built for the Commission and will commence service in 1976.

### Derwent Ferry Services

Following the Tasman Bridge disaster on 5 January 1975, emergency transport ferry services were established between Hobart and Bellerive on the Eastern Shore. The services were provided by the Transport Commission's Bruny Island vehicular ferry *Melba* and the privately-owned passenger ferries *Matthew Brady*, *James McCabe* and *Cartela*. The *Ray Larsson*, a privately-owned ferry, was introduced into a Hobart-Lindisfarne service on 20 January. On 3 February the ferry *Lady Wakehurst*, owned by the Public Transport Commission of New South Wales and chartered by the Transport Commission, joined the Hobart-Bellerive service. The Hobart-Lindisfarne service was augmented on 18 February with the addition of the privately-owned *Ohara Booth*, and shortly after a smaller sized privately-owned vessel, *Commodore I*, was added to assist during peak hours.



Later in the year, the *Kosciusko* (from Sydney) and the *Harry O'May* (from Hong Kong, originally the *Man On*) were purchased by the State Government and, after re-fitting, joined the Transport Commission's Derwent fleet.

Soon after the collapse of the Tasman Bridge steps were taken to construct a modern multi-berth ferry terminal at Kangaroo Bay, Bellerive. This project was undertaken by the Hydro-Electric Commission on behalf of the Transport Commission and was operational within one month of the commencement of the construction work. Ferry terminal facilities were later expanded. The Lindisfarne jetty and adjacent areas were improved and the Hobart Marine Board made available the Elizabeth Street Pier for conversion into a fully covered and seated multi-berth ferry terminal. (See also 'The Tasman Bridge Disaster' later in this chapter.)

## RAILWAYS

### Historical

Tasmania has a 1 067 millimetre gauge government railway system based on a route network of 850 kilometres. A private railway of 134 kilometres is operated by the Emu Bay Railway Company Ltd between Burnie and Melba Siding (19 kilometres south of Rosebery).

The first railway in Tasmania was opened for traffic in 1871 (construction having begun three years earlier on the 72 kilometre line from Deloraine to Launceston). It is significant that only one-ninth of the original capital was subscribed by the shareholders of the Launceston and Western Railway Company, the remaining \$800 000, being raised by the Government. The line was laid in broad gauge (1 600 millimetre) without regard for the fact that narrower gauge might be needed in the more mountainous parts of the island. Within a year of opening, the company was in financial difficulties and the line was taken over by the Government. At the start of construction, the island's population had not passed 100 000.

The second line was an even more ambitious undertaking—196 kilometres of 1 067 millimetre track from Hobart to Western Junction, linking there with the 1 600 millimetre line—and involved considerable problems of contour survey because of the high plateau lying across the route. The Tasmanian Main Line Railway Company opened the line for traffic in 1876. The problem of differing gauges on the two systems was overcome by laying a third rail on the 16 kilometres of the 1 600 millimetre track from Western Junction to Launceston, the Main Line Company having running rights over this stretch. In 1890 the Government purchased the line for \$2 213 000.

The next line to open for traffic (1884) was owned by the Emu Bay and Mount Bischoff Railway Company which converted an existing horse tram-way to 1 067 millimetre gauge; the 77 kilometre line connected Waratah to the Port of Burnie, the primary objective being to ship out freight from the rich Mount Bischoff tin mines.

By 1890 the essential framework of the present railway system on 1 067 millimetre gauge had been laid, and future growth involved track extensions mainly in directions already determined in the first twenty years of rapid construction. The following table shows the pattern of development in 1890 and compares it with that of the present system. Under 'route' is shown firstly the terminals of individual tracks in 1890 and secondly the present extent of the same tracks. Except for the Bell Bay line, only opening dates before 1890 are quoted since later extensions of track were carried out in several stages.

**Government and Private Railways**  
**Route-Kilometres of Lines Open: 1890 and 1975**

Route	Area served	Year open for traffic	Kilometres of lines open	
			1 Jan. 1890	30 June 1975
Launceston to Devonport .. ..	North-west	1885	(a) 132	..
Launceston to Smithton .. ..	" "	..	..	(a) 286
Hobart to Western Junction ..	North-south link	1876	(b) 196	(a) 199
Burnie to Waratah .. ..	West coast	1884	(b) 77	..
Burnie to Melba Siding .. ..	" "	..	..	(b) 134
Conara to St Marys .. ..	Fingal Valley	1886	(a) 76	(a) 76
Bridgewater to Glenora .. ..	Derwent Valley	1888	(a) 39	..
Bridgewater to Florentine ..	" "	..	..	(a) 70
Launceston to Scottsdale .. ..	North-east	1889	(a) 76	..
Launceston to Herrick .. ..	" "	..	..	(a) 137
Cold Water Creek to Bell Bay ..	Tamar Valley	1973	..	(a) 45
Other branches .. ..	..	..	(a) 6	(a) 37
Total route kilometres open ..	..	..	602	983
Government .. ..	..	..	327	851
Private .. ..	..	..	275	134

(a) Government

(b) Private.

The table does not show two defunct lines which used to operate on the west coast; these were: the Government service, Zeehan to Strahan (47 kilometres), opened in 1892; and the private service, Queenstown to Strahan (34 kilometres), opened in 1899. The Emu Bay railway had reached Zeehan by 1900 when it became possible to make a Burnie-Queenstown trip by using all three services and moving Burnie-Zeehan-Strahan-Queenstown.

In 1965, the Emu Bay Railway Company Ltd closed the line from Rosebery to Zeehan; 19 kilometres of this line, from Rosebery to Melba Siding, were re-opened in January 1970 to enable the transportation of iron pyrites to the North-West Acid Pty Ltd plant at Burnie.

Work commenced in 1971 on the construction of a new rail link from Cold Water Creek to the Port of Bell Bay. Log trains began using the first section of this line (Cold Water Creek to Long Reach) in February 1973. The final section to Bell Bay became operational in February 1974.

### Growth and Decline

The main task of developing and maintaining railways became the responsibility of the Tasmanian Government after it purchased the Hobart-Western Junction line in October 1890.

The peak of development was reached in 1930 when 1 093 kilometres were open for traffic; since then, many branch lines have been closed down, the competition of road transport making their operation uneconomic. Length of lines open has actually declined to what it was at the outbreak of World War I. Examples of lines now closed down are: Brighton to Apsley, 43 kilometres; Bellerive to Sorell, 24 kilometres; and Zeehan to Strahan, 47 kilometres.

The next table shows the length of Government-owned railways from 1895 to the present:

Government Railways: Route-Kilometres of Lines Open at 30 June

Year	Route-kilo- metres open	Year	Route-kilo- metres open	Year	Route-kilo- metres open
1895 (a) ..	676	1930 .. ..	1 093	1955 .. ..	974
1905 .. ..	745	1935 .. ..	1 038	1960 .. ..	866
1915 .. ..	858	1940 .. ..	1 036	1965 .. ..	805
1920 .. ..	1 012	1945 .. ..	1 033	1970 .. ..	805
1925 .. ..	1 083	1950 .. ..	987	1975 .. ..	851

(a) At 31 December 1895.

### Recent Developments

The long-term problem of the State railway system has been to limit its annual operational loss. Cost increases, particularly wages and salaries, without comparable increases in freight rates and fares have accentuated this problem. (During 1973-74 the wage and salary bill for railway employees exceeded railway revenue by 55 per cent.)

The Commission is pursuing the objective of securing rationalisation of operating methods. This includes not only reviews of the methods of obtaining and transporting various types of freight, but also the closing of sidings and country stations which are no longer economic to keep open and maintain, and the disposal of railway buildings no longer required for traffic purposes. Efforts are being made to increase railway revenue, reduce costs and provide improved services.

#### *Bell Bay Rail Link*

Although various proposals to construct the link had been made, some dating as far back as 1912, it was not until two woodchip exporting companies announced proposals to construct shipping berths at Long Reach, near Bell Bay, that the link was considered economically feasible. Work started on the project in late 1971. This project involved: (i) the construction of a new section of railway on the eastern bank of the Tamar River from Cold Water Creek to Bell Bay; (ii) up-grading of existing track between Launceston and Cold Water Creek, and purchase of eight heavy-duty main-line locomotives and 200 bogie log wagons; (iii) construction of new running lines and loops in Launceston; (iv) a bridge across the North Esk River; and (v) a spur line to serve the two woodchip plants at Long Reach. The new locomotives are capable of hauling a trailing load of about 1 220 tonnes on a gradient of 1 in 70. The new bogie wagons have a maximum gross tonnage of 59 tonnes.

The Bell Bay link became operational in late 1973, and the train services to Bell Bay have been co-ordinated with the regular overnight services between Hobart and Launceston.

#### *Upgrading of Tracks*

In recent years the Commission has taken active steps to upgrade the tracks in Tasmania. The consulting engineers, Maunsell and Partners Pty Ltd, are preparing a master plan for upgrading all tracks in the Tasmanian railway system. An outline of the plan had been submitted by June 1974 and detailed reports on each section of line were being prepared. During 1973-74 upgrading of seven kilometres of track on the Main Line near Conara and of another seven kilometres on the western line at Rocky Cape (north-west coast) was completed.

Also during 1974-75, work commenced on the upgrading of the 15 kilometres section of line between Launceston and Western Junction and the construction of a new loop near Relbia. When completed, the standard of the track will compare with the Bell Bay railway.

The cost of the upgrading programme is estimated at \$1.25 million and is the largest project since the completion of the Bell Bay railway.

#### *Closure of Hobart Suburban Services*

The Hobart suburban rail service was closed by the State Government from 1 January 1975. The decision to close the service followed a decline in patronage over a long period and an annual loss of about \$1m attributed to suburban services. The service was re-opened for a short period in January 1975 following the collapse of the Tasman Bridge but was again closed due to lack of patronage.

### **Federal Takeover**

#### *Takeover Agreement*

Following negotiations between the governments, the State Government passed the *Railways (Transfer to Commonwealth) Act 1975* which provided for the transfer of control of the State's railway system to the Australian Government with effect from 1 July 1975.

The agreement provided for the takeover of the administration, maintenance and control of the railway system by the Australian National Railways Commission and for the transfer of Tasmanian Government Railway employees to the Commission. With the exception of some land and minor buildings and the plant, equipment and materials in the precision tool annexe at Launceston, the National Railways Commission was to take over all the assets of the Tasmanian Government Railways.

Under the agreement, however, the State retains the following rights: (i) to consult with the Federal Government on any proposals to increase freight rates; (ii) to dispute the abolition of any service where in the opinion of the State Government that service is desirable; and (iii) consult with the Federal Government on the operation of new or existing railways which are of particular concern to the State. The State was also granted representation on the Australian National Railways Commission and the Australian Shipping Commission for an initial period of five years.

#### *Financial Arrangements*

The Federal Government agreed to discharge the State from all liabilities and financial obligations connected with the operation of the railways thus freeing the State from the burden of: (i) interest and sinking fund contributions on outstanding loan funds (about \$0.5m annually); and (ii) the operating losses which the service was expected to incur in its continued operation (the estimated operating loss for 1974-75 was \$14.5m).

In consideration of the transfer of railway assets, the Federal Government agreed to pay the State a sum of \$5m before the commencement date of the agreement; this would assist the State in reducing the budget deficit for 1974-75. The State will also receive additional Financial Assistance Grants. The initial increase in the grants would be \$3.3m and this would, in turn, increase according to the formula used to calculate the grants.

The Federal Government agreed to reduce Tasmania's loan fund allocations by only \$5m annually which was substantially less than the amount of loan funds the State Government would expect to allocate for railways. This would release

additional loan funds for other capital works in the State. It has also been estimated that the Federal Government will spend in excess of \$60m in upgrading the railways over a five-year period.

### Operating and Financial Statistics

The following table shows the principal operating statistics for the Tasmanian system:

**Tasmanian Government Railways  
Operating Statistics**

Year	Route-kilometres open (a)	Revenue train-kilometres	Passenger-journeys	Goods and livestock carried
	kilometres	'000 kilometres	'000	'000 tonnes
1968-69 .. .. .	805	1 926	1 045	1 262
1969-70 .. .. .	805	1 899	907	1 278
1970-71 .. .. .	805	1 764	871	1 221
1971-72 .. .. .	805	1 767	785	1 299
1972-73 .. .. .	831	1 960	752	1 554
1973-74 .. .. .	851	2 154	693	1 828

(a) At end of period.

The following tables give details of gross earnings and working expenses and of the number of employees, and wages and salaries paid:

**Tasmanian Government Railways  
Financial Operations**

Year	Gross earnings		Working expenses (a)		Net earnings (b)	
	Total	Per revenue train-kilometre	Total	Per revenue train-kilometre	Total	Per revenue train-kilometre
	\$'000	\$	\$'000	\$	\$'000	\$
1968-69 ..	6 947	3.60	9 089	4.72	-2 142	-1.12
1969-70 ..	6 950	3.66	9 031	4.75	-2 081	-1.09
1970-71 ..	5 867	3.32	9 891	5.60	-4 024	-2.28
1971-72 ..	6 129	3.47	10 391	5.88	-4 262	-2.41
1972-73 ..	6 842	3.49	11 829	6.03	-4 987	-2.54
1973-74 ..	7 674	3.56	15 598	7.24	-7 924	-3.68

(a) Includes provision for depreciation but excludes interest.

(b) Excess of gross earnings over working expenses.

**Tasmanian Government Railways  
Number of Employees and Wages and Salaries Paid**

Year	Average number of employees (a)		Salaries and wages paid (\$'000)	Year	Average number of employees (a)		Salaries and wages paid (\$'000)
	Salaried	On wages			Salaried	On wages	
1966-67 ..	386	1 854	6 107	1970-71 ..	421	1 701	7 637
1967-68 ..	417	2 007	6 425	1971-72 ..	404	1 582	7 914
1968-69 ..	399	1 949	6 700	1972-73 ..	402	1 574	9 197
1969-70 ..	419	1 783	7 024	1973-74 ..	364	1 779	11 907

(a) Excludes construction staff.

### Comparison with Other Australian Systems

The Tasmanian system of government railways is the smallest in Australia and the following table, showing principal operational details, allows a comparison to be made:

**Australia: Government Railway Systems, 1973-74**  
**Operating Statistics**

System	Route-kilometres open	Revenue train-kilometres	Passenger-journeys (a) (b)	Revenue goods and livestock carried (a)	Revenue net tonne-kilometres
	kilometres	'000 kilometres	'000	'000 tonnes	million
N.S.W. .. .. .	9 755	58 255	198 944	32 651	8 642.5
Victoria .. .. .	6 657	33 345	114 648	11 370	3 126.2
Queensland .. .. .	9 472	28 542	33 723	25 401	7 855.1
S.A. .. .. .	3 884	10 313	13 597	6 607	1 753.1
W.A. .. .. .	6 192	12 617	11 748	14 839	4 142.5
Tasmania .. .. .	851	2 154	693	1 828	277.9
Australian Government ..	3 595	5 966	(c) 263	(d) 4 270	2 532.0
Total Australia .. .. .	40 406	151 192	373 618	96 966	28 329.3

(a) Interstate traffic is included in the total for each system over which it passes.

(b) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys.

(c) Passenger journeys continuing over both the Trans-Australian and Central Australia Railway systems are counted twice. In 1973-74 these numbered 9 269.

(d) Tonnes carried over both the Trans-Australian and Central Australia Railways systems are counted twice. In 1973-74, 249 629 tonnes were counted twice.

The financial operations of the six state railways and the Australian Government systems are shown below:

**Australia: Government Railways, 1973-74**  
**Financial Operations**  
**(\$ Million)**

System	Gross earnings (a)	Working expenses (b)	Net earnings (c)	Plus other earnings payable to railways (d)	Less other expenses charged to railways (e)	Surplus or deficit
N.S.W. .. .. .	262.7	349.9	-87.2	4.7	43.2	-125.7
Victoria .. .. .	115.6	188.6	-73.0	0.1	11.7	-84.6
Queensland .. .. .	149.8	162.1	-12.3	..	41.5	(f) -53.8
S.A. .. .. .	39.5	(g) 60.7	-21.2	30.3	9.1	..
W.A. .. .. .	78.5	(g) 81.9	-3.4	1.5	14.6	-16.6
Tasmania .. .. .	7.7	(g) 15.6	-7.9	..	2.7	-10.6
Australian Government ..	37.2	(g) 44.4	-7.2	..	..	-7.2
Total Australia .. .. .	691.1	903.3	-212.2	36.7	122.7	-298.4

(a) Excludes government grants and road motor services.

(b) Excludes road motor services.

(c) Gross earnings less working expenses. See notes (a) and (b).

(d) Includes state government grants and road motor earnings.

(e) Includes interest and exchange, sinking fund, road motor expenses and other expenses charged to railways.

(f) Includes deficit (\$1 308 200) on the Queensland 1 435mm gauge.

(g) Includes provision for depreciation.

### *Financial Comparison*

In comparing the financial results of the Tasmanian system with those of other authorities, certain difficulties arise from the treatment of depreciation. In the preceding table, working expenses for the Tasmanian, S.A., W.A. and Australian Government systems include provision of reserves for depreciation. A further complication arises from the fact that interest is not charged against the railways accounts of the Australian Government system, and in the Victorian system only in respect of loan expenditure since 1 July 1960.

To the extent that there is differing treatment of interest and of depreciation provisions in the various systems, the 'surplus or deficit' shown in the table is not a good basis for making comparisons; however, if due allowance is made for interest charges in the case of the Australian Government system, it will be seen that loss, rather than profit, is characteristic of all Australian systems.

## GOVERNMENT OMNIBUS SERVICES

### Introduction

The only Government road services in operation from 8 December 1968 (when the Transport Commission road services were discontinued) are those operated by the Metropolitan Transport Trust at Hobart, Launceston and Burnie. Prior to this date the Transport Commission operated omnibus services throughout the State. However, following trading losses on the operation of the Transport Commission's omnibus services during 1965-66 and 1966-67 Parliament refused approval for continuation of the service. The *Transport Commission (Road Transport Undertaking Disposal) Act* 1968 required the Commission to sell its omnibus fleet to a private operator. Disposal of the fleet was completed in December 1968.

### Metropolitan Transport Trust

Until 1955, tramway, trolley-bus and omnibus services were operated in Hobart and Launceston by the local government authority in each city. The Hobart system had operated without subsidy but the Launceston system received, as one item of revenue, the annual proceeds from a special tramways rate.

The *Metropolitan Transport Act* 1954 empowered the State to enter into agreements for the acquisition of the two systems and to vest them in the newly constituted semi-government authority named in the Act. After negotiation with the two local government authorities, the Trust arranged to take over the Hobart system from 28 February 1955, and the Launceston system from 1 July 1955. It was part of the agreement that the Trust should reimburse to the local government authorities the annual charges relating to the loan debt of each system. Future capital was to come from the State Loan Fund. During 1959-60, the Trust commenced the operation of omnibus services in Burnie.

The present service is based entirely on omnibuses, although trolley-buses were in use on some Hobart and Launceston routes as late as 1968. It was in October 1960 that the Trust closed down the last of the tramway services in Hobart; Launceston City had closed down all its tramway services before the city transport system was taken over by the Trust in July 1955. One paradoxical feature of recent years is the decline in passenger journeys, despite increases in urban population; increasing private motor vehicle ownership explains this trend.

### *Financial Operations of Trust*

The following table shows the income and expenditure of the Metropolitan Transport Trust:



**Metropolitan Transport Trust  
Income and Expenditure  
(\$'000)**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>INCOME</b>					
Traffic operations .. ..	2 297	2 284	2 597	2 612	2 698
Other earnings .. ..	35	38	41	46	52
Subsidy, State Government ..	1 011	1 418	1 310	1 692	2 520
<b>Total .. ..</b>	<b>3 343</b>	<b>3 739</b>	<b>3 948</b>	<b>4 350</b>	<b>5 270</b>
<b>EXPENDITURE</b>					
Traffic operations .. ..	1 785	2 040	2 160	2 407	3 025
Maintenance .. ..	530	578	596	664	800
Power and fuel .. ..	218	250	267	265	310
Workshop and stores .. ..	55	56	65	67	71
Administration and general	415	462	516	594	764
Debt charges .. ..	147	144	146	143	143
Depreciation charges .. ..	208	211	199	194	169
<b>Total .. ..</b>	<b>3 358</b>	<b>3 741</b>	<b>3 949</b>	<b>4 333</b>	<b>5 283</b>

A break-down of income earned from traffic operations in the three centres for 1973-74 follows (in \$'000): Hobart, 1 974; Launceston, 553; and Burnie, 171.

#### *Loan Debt of Trust*

The Trust has now fully repaid all loans originally floated by the Hobart and Launceston City Corporations for tramways. Net advances to the Trust from the State Loan Fund at 30 June 1974 stood at \$2 585 323.

#### *Operating Statistics*

The next table shows the principal operating statistics for the Metropolitan Transport Trust:

**Metropolitan Transport Trust  
Operating Statistics**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Route-kilometres (a) .. ..	383	383	385	402	407
Vehicle-kilometres .. ..	8 739	8 766	8 647	8 381	8 618
Passenger journeys .. '000	20 707	20 797	19 606	18 728	19 515
Fare income per passenger journey (b) .. .. \$	0.11	0.11	0.13	0.14	0.14
Working expenses per passenger journey (c) .. .. \$	0.15	0.16	0.18	0.21	0.25

(a) At end of period.

(b) Income from fares only—excludes other revenue.

(c) Excludes debt charges and depreciation.

At 30 June 1975 the Metropolitan Transport Trust had a fleet of 319 vehicles comprising 302 passenger buses and 17 maintenance vehicles. Disposition of the fleet was: Hobart, 216 passenger buses and 12 maintenance vehicles; Launceston, 65 passenger buses and four maintenance vehicles; and Burnie, 21 passenger buses and one maintenance vehicle.

## ROADS AND BRIDGES

### Scope

The details in the following section refer to: (i) 'classified' roads; (ii) roads of local government authorities; and (iii) roads of other government authorities. A further qualification is that the roads are those normally open to traffic.

In the first table showing road lengths, there has been a substantial reduction in figures for classified roads and for roads of local government authorities from 1970 to 1971; this was due principally to revisions based on a Public Works Department survey involving actual field measurement, but some of the reduction in the length of the classified system is due to reclassification, new by-passes, bend elimination, etc. (The further reductions in local government roads in 1972 and 1973, resulted from additional survey work carried out by the Public Works Department.)

### Definitions and Road Lengths

(i) *Classified Roads*: These are roads for which the State Government accepts direct responsibility, the construction and maintenance authority being the Public Works Department. The length of classified (or State) roads at 30 June 1974 was as follows: State highways, 1 929 kilometres; main roads, 1 065 kilometres; secondary roads, 292 kilometres; tourist roads, 76 kilometres; developmental roads, 154 kilometres; total State roads, 3 516 kilometres.

(ii) *Roads of Local Government Authorities*: The roads for which the local government authorities accept responsibility at 30 June 1974 comprised: sealed roads, 3 552 kilometres; unsealed roads, 9 311 kilometres; total 12 862 kilometres.

(iii) *Roads of Other Government Authorities*: Roads which were the responsibility of these authorities at 30 June 1974 comprised: roads of the Hydro-Electric Commission, 531 kilometres; Forestry Commission, 3 859 kilometres; total, 4 390 kilometres. The Hydro-Electric Commission roads include the Gordon River Road from Maydena to the Gordon River dam site (85 kilometres) and the Scotts Peak Road which runs from the Gordon River Road to Scotts Peak (35 kilometres).

It is not generally recognised that the Hydro-Electric Commission, intent on developing the State's power supplies, has made valuable contributions to Tasmania's road system. Roads, originally built to give access to construction sites, have later been absorbed into the classified road system and therefore are available for general use. This type of development has not come to an end and new roads are likely to result from the future operations of the authority in the Pieman River area of the west coast and in the region of the major rivers further south. The main areas where the Commission's activities have already affected the road system are in the upper Derwent; Great Lake; Mersey Valley; and remote south-west areas.

### Surface of Roads

The following table shows lengths of all roads normally open to traffic classified according to road surface and according to the level of government which accepts responsibility for construction and maintenance. The proportion of classified (State) roads with sealed surfaces has increased from 73.9 per cent at 30 June 1968 to 85.7 per cent in June 1974. Sealing of the Lyell Highway was completed during 1973-74.

## Length of Roads According to Nature of Surface at 30 June

Type of surface	1970	1971	1972	1973	1974
CLASSIFIED STATE ROADS					
Sealed (a) .. kilometres	2 840	2 890	2 905	2 973	3 013
Unsealed (b) .. kilometres	726	618	607	548	503
Total .. kilometres	3 566	(c) 3 508	3 512	3 521	3 516
Sealed ratio (d) .. %	79.6	82.4	82.7	84.4	85.7
ROADS OF LOCAL GOVERNMENT AUTHORITIES (e)					
Sealed (a) .. kilometres	3 291	3 050	3 219	3 363	3 552
Unsealed (b) .. kilometres	11 413	10 145	9 794	9 447	9 311
Total .. kilometres	14 705	13 195	13 013	12 810	12 862
Sealed ratio (d) .. %	22.4	23.1	24.7	26.3	27.6
ROADS OF OTHER GOVERNMENT AUTHORITIES					
Sealed (a) .. kilometres	105	119	167	151	151
Unsealed (b) .. kilometres	3 758	3 853	4 005	4 148	4 239
Total .. kilometres	3 862	3 972	4 172	4 299	4 390
Sealed ratio (d) .. %	2.7	3.0	4.0	3.5	3.4
ALL ROADS (e)					
Sealed (a) .. kilometres	6 236	6 059	6 292	6 487	6 716
Unsealed (b) .. kilometres	15 897	14 616	14 405	14 143	14 052
Total .. kilometres	22 133	20 675	20 697	20 630	20 767
Sealed ratio (d) .. %	28.2	29.3	30.4	31.4	32.3

(a) Bitumen or concrete.

(b) Includes roads formed or cleared only.

(c) Decrease in road length when compared with 1970 is principally due to reclassification of the Tarra-leah Highway.

(d) Sealed roads as a proportion of total roads.

(e) See introductory section under 'Scope' for explanation of apparent decrease in lengths from 1971.

## Classified (or State) Roads

The next table analyses the length of classified roads according to their description and surface. The principal State highways include the following: (i) *Arthur* (74 kilometres), from Sorell to Port Arthur; (ii) *Bass* (283 kilometres), from Launceston to Marrawah in the far north-west; (iii) *Channel* (95 kilometres), from Hobart to Huonville, via D'Entrecasteaux area; (iv) *Huon* (99 kilometres), from Hobart to Hythe via Dover; (v) *Lake* (150 kilometres), from Deloraine via Great Lake to Melton Mowbray; (vi) *Lyell* (284 kilometres), from Granton, near Hobart, to Strahan; (vii) *Midland* (185 kilometres), from Glenorchy to Launceston; (viii) *Murchison* (78 kilometres), linking the Zeehan and Waratah Highways; (ix) *Tasman* (422 kilometres), from Hobart to Launceston, via east coast and St Helens; (x) *Waratah* (72 kilometres), from Somerset to Waratah.

**Classified (or State) Roads**  
**Description and Length of Roads at 30 June 1974**  
**(Kilometres)**

Description	Nature of surface		Total
	Sealed (a)	Unsealed (b)	
Highways .. .. .	1 827	102	1 929
Main roads .. .. .	900	165	1 065
Secondary roads .. .. .	150	143	292
Tourist roads .. .. .	7	69	76
Developmental roads .. .. .	129	25	154
Total .. .. .	3 013	503	3 516

(a) Bitumen or concrete.

(b) Gravel or stone.

### Expenditure on Roads

As indicated in the preface to this section, the responsibility for road construction and maintenance is placed upon the State Government and upon local government and semi-government authorities. The next table gives a detailed analysis only of funds available to the State Government and expenditure from State road funds:

**State Road Funds: Receipts and Payments**  
**(\$'000)**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>RECEIPTS</b>					
Motor vehicle taxation, registration, licences, fees, fines, etc. .. ..	4 827	5 033	5 659	5 912	6 338
Australian Government grants .. ..	9 100	10 230	10 820	12 150	13 950
State Loan Fund .. .. .	1 100	1 020	930	540	710
Contributions by local government authorities .. .. .	18	17	17	19	17
Other .. .. .	128	93	307	277	441
Total .. .. .	15 173	16 393	17 733	18 897	21 456
<b>PAYMENTS</b>					
Construction and reconstruction of roads and bridges .. .. .	11 322	12 320	12 960	13 810	15 757
Maintenance of roads and bridges ..	3 662	4 297	4 475	4 686	4 978
Planning and research .. .. .	120	185	189	186	220
Total .. .. .	15 105	16 802	17 624	18 682	20 955

Grants under Commonwealth Aid Roads Acts provide the bulk of the funds with a major contribution also coming from motor vehicle taxation, registration fees, etc.

### *Receipts and Expenditure, Local Government Authorities*

Some of the expenditure appearing in the State Road Funds table consists of grants from the State Government to local government authorities, although such grants are not specifically dissected. In chapter 4, 'Local Government',

details will be found of: (i) grants from the State to local government authorities for road purposes; (ii) road rates collected by local government authorities; and (iii) expenditure on road construction and maintenance by local government authorities from revenue, and from loan funds.

## Bridges

### *The Paterson Bridge*

The Paterson Bridge, Tasmania's latest major bridge construction, is located across the mouth of the South Esk River just downstream from the existing Kings Bridge. The new bridge provides a separate connection between the West Tamar Road and the City of Launceston. The existing Kings Bridge is retained as the direct connection between Trevallyn and the City.

### *The Tasman Bridge*

The Tasman Bridge link between Hobart's eastern and western suburbs was broken on 5 January 1975 following the destruction of two sets of piles by a ship carrying ore upstream. An article at the end of this chapter outlines the effect of its destruction and the measures taken to provide an alternative crossing.

## MOTOR VEHICLE REGISTRATIONS

### General

Statistics in this section deal with: (i) motor vehicles 'on register' at specific dates; and (ii) new motor vehicles registered within a specified period, e.g. a year.

### Definitions

*Register:* To be allowed on the public roads, motor vehicles, except those owned by the Australian Government, are required to be registered with the State Transport Commission; State Government vehicles, as well as privately-owned vehicles, are registered with this authority. Australian Government-owned vehicles, except those belonging to the defence services, are recorded on a separate Australian Government register. 'On the register', in this section, refers to both the State and Australian Government registration records, and to all motor vehicles except those of the defence services. Statistics of new motor vehicle registrations comply with the same definition.

*Vehicles Included:* The statistics cover cars, station wagons, motor cycles and commercial vehicles. Commercial vehicles as defined include utilities, panel vans, rigid and articulated trucks, other truck type vehicles (i.e. commercial vehicles used for purposes other than freight carrying, e.g. fire engines) and omnibuses. Tractors, trailers and mobile plant and equipment are excluded.

Because of the multi-purpose nature of rear-door sedans it is possible for these types of vehicles to be registered as either cars or station wagons. In these statistics all rear-door sedans are classified as cars.

### Vehicles on Register

The following table has been compiled to show, in summary form, the increase in motor vehicles on the register since 1910. To give a convenient measure of this growth, vehicles on the register have been related to the population (vehicles per 1 000 persons), and increases have been expressed as annual averages for each decade.

## Transport and Communication

## Motor Vehicles on Register from 1910

At 30 June	Cars and station wagons	Commercial vehicles	Motor cycles	All vehicles		
				Total	Average annual increase (a)	Per 1 000 of population
	'000	'000	'000	'000	'000	no.
1910 .. ..	0.2	(b)	0.2	0.4	..	2
1920 .. ..	2.4	(b)	1.7	4.1	0.4	20
1930 .. ..	12.5	2.2	4.8	19.5	1.5	89
1940 .. ..	17.6	5.2	3.4	26.2	0.7	109
1950 .. ..	25.3	12.9	4.9	43.2	1.7	156
1960 .. ..	63.7	26.4	3.1	93.2	5.0	271
1970 .. ..	118.6	32.6	3.1	154.3	6.1	398
1974 .. ..	143.1	34.8	6.3	184.2	(c)7.5	460

(a) For decade ending in year shown.

(b) Included with cars and station wagons.

(c) For four years ended 30 June 1974.

The next table gives details of motor vehicles on the register during the past decade; annual increases are shown to allow comparison with the average annual rates for each decade appearing in the previous historical table.

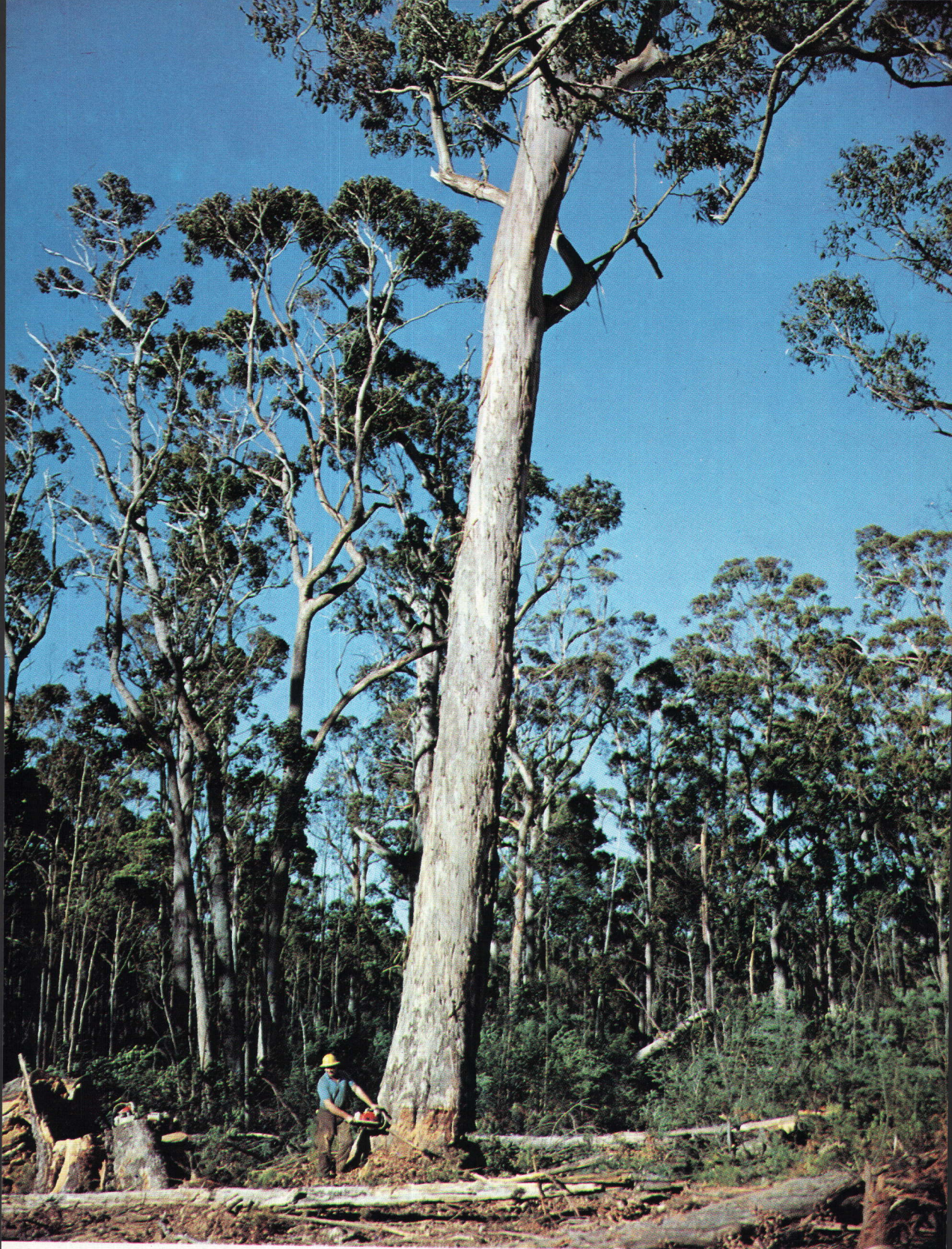
## Motor Vehicles on Register

At 31 December	Cars and station wagons	Commercial vehicles	Motor cycles	All vehicles		
				Total	Annual increase	Per 1 000 of population
	'000	'000	'000	'000	'000	no.
1965 .. ..	93.7	29.0	1.4	124.1	6.1	336
1966 .. ..	99.5	30.2	1.6	131.3	7.2	352
1967 .. ..	104.2	30.6	1.8	136.6	5.3	362
1968 .. ..	110.6	31.6	2.5	144.7	8.1	378
1969 .. ..	116.1	32.4	2.9	151.4	6.7	391
1970 .. ..	122.0	32.7	3.3	158.0	6.6	405
1971 .. ..	128.0	33.3	3.7	165.0	7.0	420
1972 .. ..	133.6	33.7	4.1	171.5	6.5	434
1973 .. ..	140.2	34.5	5.3	180.0	8.5	451
1974 .. ..	147.0	35.1	7.4	189.6	9.6	468

## Motor Vehicles on Register in Australia

While different concepts of what constitutes 'motor vehicles on register' at a particular point of time may be appropriate for different purposes, for the purpose of obtaining uniform statistics for all states and territories, it is necessary to adopt a common concept of what constitutes 'motor vehicles on register' at a particular date. For this series, the Bureau has adopted the concept of motor vehicles on register at a particular date as being: (i) vehicles whose fees were paid up at that date, in respect of that date; and (ii) vehicles whose fees were not paid up at that date but subsequently were paid retrospectively to that date (or to an earlier date); and excluding all vehicles whose fees were not subsequently paid up in respect of that particular date, even though at that date their registrations may not have been formally terminated.





Tree felling in Tasmania

[Penny Cresswell and Associates]

(By permission of Tasmanian Directorate of Industrial Development)





Shearing sheep at Dennistoun, Bothwell.

(By permission of Tasmanian Directorate of Industrial Development)

[Dept of Film Production]



The following table shows estimated details of motor vehicles on the register for each state and territory at 30 June 1974. The figures are based on the final results of the census of motor vehicles conducted in respect of 30 September 1971. Motor vehicles on register are compiled from data supplied by the various registration authorities and include diplomatic and consular vehicles and all Australian Government-owned vehicles other than those belonging to the defence services.

Australia: Motor Vehicles on Register, 30 June 1974

State or territory	Cars and station wagons	Commercial vehicles	Motor cycles	All vehicles	
				Total	Per 1 000 of population
	'000	'000	'000	'000	no.
New South Wales .. ..	1 596.8	364.3	87.5	2 048.5	431
Victoria .. .. .	1 301.9	261.7	45.8	1 609.4	444
Queensland .. .. .	647.2	201.2	58.1	906.6	460
South Australia .. ..	449.3	97.6	30.7	577.6	475
Western Australia .. ..	389.1	116.0	22.0	527.1	483
Tasmania .. .. .	143.1	34.8	6.3	184.2	460
Northern Territory .. ..	22.2	13.0	3.9	39.2	385
Australian Capital Territory	77.5	11.4	4.8	93.7	519
Total .. .. .	4 627.2	1 099.9	259.1	5 986.1	449

### Registration of New Motor Vehicles

A revised classification of commercial vehicles was adopted from 1 January 1972. Under the new classification commercial vehicles are grouped into the following categories:

- (i) *Light commercial—open*: vehicles (utilities and open light trucks) with a manufacturer's carrying capacity specification of less than one tonne.
- (ii) *Light commercial—closed*: vehicles (panel vans and closed light trucks) with a manufacturer's carrying capacity of less than one tonne, and all ambulances and hearses.
- (iii) *Heavy commercial*: rigid and articulated vehicles with a manufacturer's carrying capacity specification of one tonne or over; and vehicles other than those used for freight carriage (e.g. fire engines).

The next table shows details of registrations for recent years:

Annual Registrations of New Motor Vehicles

Classification	1970	1971	1972	1973	1974
Motor cars .. .. .	10 364	10 633	11 051	12 269	13 074
Station wagons .. ..	1 250	1 282	1 204	1 396	1 591
Commercial vehicles—					
Light open .. .. .	1 144	1 076	(a) 1 054	1 118	1 148
Light closed .. ..	543	635	(a) 486	706	899
Heavy .. .. .	720	714	(a) 892	1 058	1 154
Buses .. .. .	98	97	83	114	138
Motor cycles .. .. .	804	851	1 089	1 863	3 049
Total .. .. .	14 923	15 288	15 859	18 524	21 053

(a) Revised classification—see section preceding this table.

*New Registrations According to Make*

The table that follows analyses Tasmanian registrations of new cars and new station wagons according to make, and illustrates the present popularity of Holden, Ford, Datsun, Toyota and Chrysler makes.

**Registrations of New Cars and New Station Wagons, 1974**  
Classified by Predominant Make

Make	Cars		Station wagons	
	Number	Proportion of total cars (per cent)	Number	Proportion of total station wagons (per cent)
Alfa Romeo .. ..	29	0.2	..	..
B.M.W. .. ..	32	0.2	..	..
Chrysler .. ..	1 109	8.5	226	14.2
Citroen .. ..	16	0.1	8	0.5
Datsun .. ..	1 588	12.1	53	3.3
Fiat .. ..	229	1.8	..	..
Ford .. ..	2 435	18.6	387	24.3
Holden .. ..	3 413	26.1	495	31.1
Honda .. ..	97	0.7	..	..
Jaguar .. ..	14	0.1	..	..
Lancia .. ..	22	0.2	..	..
Leyland .. ..	814	6.2	..	..
Mazda .. ..	796	6.1	101	6.3
Mercedes Benz .. ..	84	0.6	..	..
Peugeot .. ..	97	0.7	..	..
Renault .. ..	232	1.8	44	2.8
Statesman .. ..	98	0.7	..	..
Subaru .. ..	186	1.4	41	2.6
Toyota .. ..	1 394	10.7	160	10.1
Triumph .. ..	58	0.4	..	..
Volkswagen .. ..	190	1.5	31	1.9
Volvo .. ..	101	0.8	22	1.4
Other .. ..	40	0.3	23	1.4
Total .. ..	13 074	100.0	1 591	100.0

**' Scrapping of Motor Vehicles '**

Apart from the few 'veteran' cars owned by enthusiasts, most vehicles are eventually scrapped. No information is collected on the number scrapped each year but the following table contains information from which some inferences may be drawn:

**New Motor Vehicles Registered and Annual Increase in Motor Vehicles on Register**  
(<sup>'000</sup>)

Particulars	1969	1970	1971	1972	1973	1974
New motor vehicles registered (a) .. ..	14.4	14.9	15.3	15.9	18.5	21.1
Annual increase, motor vehicles on register (b) ..	6.7	6.6	7.0	6.5	8.5	9.6

(a) During year ended 31 December.

(b) Annual increase measured at 31 December.

In comparing the two sets of figures in the previous table, it would be wrong to assume that the difference in each year represented scrapped vehicles only; exceptions would include vehicles transferred interstate and vehicles 'on blocks'—the fact that an owner has let a registration expire does not necessarily mean that he intends to scrap his vehicle. Subject to these and similar difficulties of interpretation, it would appear that upwards of about eight thousand motor vehicles have been scrapped annually since 1970.

## **ROAD TRAFFIC ACCIDENTS IN TASMANIA**

### **Scope of Statistics**

With the rapid development of road transport, there has been an increase in the number of road traffic accidents; some merely involve damage to vehicles, but others result in injury or death. To evolve meaningful statistics describing these events, it has been found necessary to narrow the field of observation to those road traffic accidents which involve casualties, since most accidents resulting only in vehicle damage are not required by law to be reported to the police (the drivers might merely exchange names and report to their respective insurance companies). Further, there is the difficulty of fixing, in monetary terms, some valid standard for determining what degree of vehicle damage warrants inclusion of an accident in a long-term statistical series—obviously \$20 or \$50 for repairs in 1950 is not comparable with \$20 or \$50 for repairs now.

For these and other reasons, the statistics in this section are restricted to details of those road traffic accidents involving casualties requiring medical or surgical treatment, or causing death and which were recorded by the police.

### **Source of Data**

Details of each road traffic accident reported to the police, or investigated by the police are recorded on a standard form and copies are made available to the Transport Commission and to the Australian Bureau of Statistics; at the Bureau, quarterly statistics are compiled only from those reports describing accidents involving casualties. The Transport Commission employs the reports it receives in connection with road engineering, the location of traffic signs and signals, the pin-pointing of dangerous locations, traffic engineering, and accident prevention in general.

### **Responsibility for, and Causes of, Accidents**

For the purpose of the statistics in this section, the police officer reporting the accident determines, on the basis of the evidence available, the road user or agency responsible, and also the prime cause of the accident. The fact that civil or criminal courts may later make different decisions on these matters is disregarded in these statistics; nor is any attempt made to distinguish between accidents giving rise to subsequent legal action and those not doing so.

### **Causes of Accidents**

Causes of accidents in Australian states are classified, for statistical purposes, in accordance with a standard list of 76 prime causes (although, in this section, only the most frequent causes are shown). Contributory causes and conflicting or incomplete evidence make precise classification difficult. No provision is made to record and classify such antecedent causes as fatigue, discourtesy, impatience or other driving faults. However, since July 1971 accidents where consumption

of alcohol is involved have been given a special classification. Where the blood alcohol level of the road user considered responsible is 0.05 (grams of alcohol per 100 millilitres of blood) or greater, this is recorded separately and no cause for the accident is assigned. The same practice is followed for road users who were reported 'obviously affected by alcohol' by the police and: (i) refused breath and/or blood tests; or (ii) had a blood alcohol level under 0.05; or (iii) were not tested because facilities were not readily available. The double assumption in each such case is: (i) the road users skills were impaired by alcohol; and (ii) this impairment was a factor contributing to the accident.

### Road Traffic Accident Statistics

#### Summary

Generally there has been an increase in both the number of road traffic accidents and in the number of persons killed in road traffic accidents in recent years, although the number of persons killed showed a marked decline in 1972-73. The following table summarises the principal statistics of road traffic accidents involving casualties for selected years from 1949-50:

**Road Traffic Accidents Involving Casualties, Selected Years from 1949-50**

Period	Accidents		Persons			
	Number	Per 10 000 vehicles registered (a)	Killed		Injured	
			Number	Per 10 000 vehicles registered (a)	Number	Per 10 000 vehicles registered (a)
1949-50 .. .. .	969	242	64	16.0	1 154	288
1959-60 .. .. .	743	82	79	8.7	1 004	111
1964-65 .. .. .	1 180	100	97	8.2	1 692	143
1969-70 .. .. .	1 413	93	122	8.0	2 268	150
1970-71 .. .. .	1 396	89	124	7.9	2 031	129
1971-72 .. .. .	1 371	83	118	7.2	1 984	120
1972-73 .. .. .	1 423	83	83	4.8	2 052	119
1973-74 .. .. .	1 454	81	126	7.0	2 046	114

(a) Based on average number of motor vehicles on register during period. 'Vehicles on register' is defined in the earlier section headed 'Motor Vehicle Registrations'.

#### Location of Accidents

The first table shows the location of accidents in the State:

**Road Traffic Accidents and Casualties by Local Government Area, 1973-74**

Local government area	Accidents involving casualties	Persons killed	Persons injured
Hobart .. .. .	285	12	361
Launceston .. .. .	163	10	206
Glenorchy .. .. .	135	10	175
Clarence .. .. .	137	5	205
Burnie .. .. .	53	9	74
Devonport .. .. .	69	1	90
Other .. .. .	612	79	935
Total .. .. .	1 454	126	2 046

*Responsibility for Road Accidents*

The next table shows the type of road user or agency believed responsible:

**Responsibility for Road Traffic Accidents, 1973-74**

Responsibility attributed to—	Accidents involving casualties	Persons killed	Persons injured
Drivers of motor vehicles ..	1 053	98	1 610
Riders of motor cycles ..	113	10	119
Pedal cyclists .. ..	23	1	23
Pedestrians .. ..	176	14	170
Passengers .. ..	6	..	8
Motor vehicle defects ..	18	..	22
Motor cycle defects .. ..	3	..	4
Pedal cycle defects .. ..	3	..	3
Animals .. ..	7	1	10
Road conditions .. ..	28	1	43
Weather .. ..	8	1	13
Parties not involved (a) ..	15	..	20
Other causes .. ..	1	..	1
Total .. ..	1 454	126	2 046

(a) e.g. a car collides with another, after swerving to avoid a pedestrian who is not struck.

*Causes of Accidents—Drivers of Motor Vehicles Responsible*

The next table analyses accidents for which drivers of motor vehicles were believed responsible:

**Road Traffic Accidents Caused by Drivers of Motor Vehicles, 1973-74**  
**Classification by Cause**

Principal causes of accidents for which drivers of motor vehicles (excluding motor cycles) were responsible	Accidents involving casualties	Persons killed	Persons injured
Accidents involving alcohol—			
Driver's blood alcohol level 0.05 (a) or greater .. ..	260	48	401
Driver refused test .. ..	7	2	9
Other cases (b) .. ..	42	9	74
Other accidents—			
Excessive speed having regard to conditions .. ..	128	10	188
Not keeping to the left .. ..	73	11	154
Not giving right of way .. ..	202	3	293
Failing to make right-hand turn with due care .. ..	65	1	81
Inexperience .. ..	30	1	43
Inattentive driving .. ..	110	2	181
Reversing without care .. ..	9	..	9
Overtaking without sufficient clearance .. ..	25	3	42
Following other vehicle too closely .. ..	29	1	38
Infirmity of driver .. ..	7	..	7
Driver asleep or drowsy .. ..	17	3	22
Dazzled by lights of approaching vehicle .. ..	6	..	14
Failing to signal intention of turning or stopping ..	4	..	5
Pulling out from kerb without warning .. ..	17	1	20
Failing to observe traffic sign or signal .. ..	9	1	13
Crossing railway level crossing without due care ..	2	1	2
Hit-run (n.e.i.) .. ..	9	1	9
Other causes .. ..	2	..	5
Total .. ..	1 053	98	1 610

(a) Grams of alcohol per 100 millilitres of blood.

(b) Driver reported obviously affected by alcohol by police but blood alcohol level less than 0.05, or not tested because facilities not readily available.

A summary of road traffic accidents for which drivers of motor vehicles were responsible follows:

**Road Traffic Accidents, Drivers of Motor Vehicles Responsible (a): Summary**

Accidents involving casualties	1969-70	1970-71	1971-72	1972-73	1973-74
Drivers of motor vehicles responsible—					
Number of accidents .. ..	1 032	1 004	1 002	1 031	1 053
Proportion of total accidents .. %	73.0	71.9	73.1	72.5	72.4

(a) Excludes riders of motor cycles.

**Alcohol-factor Accidents, Drivers of Motor Vehicles Responsible**

The following table shows the blood alcohol level and age group of drivers of motor vehicles (excluding motor cycles) believed responsible for casualty accidents:

**Road Traffic Accidents, Drivers of Motor Vehicles Responsible, 1973-74  
According to Blood Alcohol Level and Age Group**

Blood alcohol level (a)	Age group of drivers responsible (in years)								Total
	20 and under	21-24	25-29	30-39	40-49	50-59	60 and over	Not stated	
Less than 0.05 .. ..	14	3	3	3	2	1	..	..	26
0.05 .. .. .	6	1	..	..	..	..	..	..	7
0.06 .. .. .	4	1	..	..	2	1	..	..	8
0.07 .. .. .	8	2	2	..	..	1	..	..	13
0.08 .. .. .	11	3	3	1	2	..	..	..	20
0.09 .. .. .	3	4	2	1	..	2	..	..	12
0.10 .. .. .	3	6	2	1	2	1	1	..	16
0.11 or 0.12 .. ..	20	8	4	5	3	1	..	..	41
0.13 or 0.14 .. ..	12	8	6	7	1	1	2	..	37
0.15 or 0.16 .. ..	8	8	5	2	3	1	1	..	28
0.17 or 0.18 .. ..	7	6	4	1	4	2	1	..	25
0.19 or 0.20 .. ..	3	2	4	4	3	1	..	..	17
0.21 or 0.22 .. ..	3	6	3	7	2	1	..	..	22
0.23 or 0.24 .. ..	..	..	..	3	1	..	..	1	5
0.25 or 0.26 .. ..	1	1	2	1	..	..	..	..	5
0.27 or 0.28 .. ..	..	..	1	..	..	..	..	..	1
0.29 or 0.30 .. ..	..	..	..	..	1	..	..	..	1
0.31 or above .. ..	1	..	..	..	..	1	..	..	2
Refused test .. ..	2	..	1	2	1	1	..	..	7
Test facilities not available	5	7	1	1	1	1	..	..	16
Total .. .. .	111	66	43	39	28	16	5	1	309

(a) Grams of alcohol per 100 millilitres of blood.

Of the 309 'driver responsible' casualty accidents in which alcohol was considered to be the possible prime or antecedent cause, 177 accidents (i.e. 57.3 per cent) involved drivers under 25 years of age.

**Drivers Involved in Accidents, Age Group and Licence Type**

During 1973-74 a total of 2 011 drivers of motor vehicles (excluding motor cycles) were involved in casualty accidents which were reported to the police. Of these, 25 per cent (511) were under 21 years of age and a further 31 per cent (621) were from 21 to 29 years of age.

The age group and type of driving licence held by these drivers at the time of the accident are shown in the next table:



**Road Traffic Accidents, Drivers of Motor Vehicles Involved, 1973-74**  
**According to Licence Type and Age Group**

Type of driving licence	Age group of drivers involved (in years)								Total drivers involved
	Under 21	21-24	25-29	30-39	40-49	50-59	60 and over	Not stated	
Learner .. .. .	33	3	..	3	2	1	1	..	43
Provisional .. ..	384	75	32	26	8	12	3	1	541
Ordinary .. .. .	44	220	236	275	215	152	107	4	1 253
Interstate or international	5	17	11	13	3	3	3	1	56
No licence .. .. .	40	12	10	11	7	4	..	..	84
Not known .. .. .	5	4	1	4	2	..	1	17	34
Total .. .. .	511	331	290	332	237	172	115	23	2 011

*Causes of Accidents*

The table below analyses road traffic accidents for which pedestrians were held responsible:

**Road Traffic Accidents, Pedestrians Responsible, 1973-74**  
**Classification by Cause**

Principal causes of accidents for which pedestrians were responsible	Accidents involving casualties	Persons killed	Persons injured
Accidents involving alcohol—			
Pedestrian's blood alcohol level 0.05 (a) or greater ..	9	7	3
Pedestrian refused test .. .. .	..	..	..
Other cases (b) .. .. .	8	..	8
Other accidents—			
Walking across roadway without due care .. .. .	64	5	62
Running across roadway .. .. .	36	..	37
Passing behind or in front of moving or stationary vehicle or object .. .. .	15	..	15
Stepping off kerb without due care .. .. .	4	..	4
Children under seven years of age not under, or breaking away from, the supervision of an older person ..	37	2	36
Other causes .. .. .	3	..	5
Total .. .. .	176	14	170

(a) Grams of alcohol per 100 millilitres of blood.

(b) Pedestrian reported 'obviously affected by alcohol' by police but blood alcohol level less than 0.05, or not tested because facilities not readily available.

**Features of Roadways on Which Accidents Occurred, 1973-74**

Feature of roadway	Accidents involving casualties	Persons killed	Persons injured
At intersections—			
Controlled .. .. .	81	3	107
Uncontrolled .. .. .	387	16	544
Other than at intersections—			
Straight road .. .. .	519	46	685
Bend or curve .. .. .	455	58	693
Bridge, culvert or causeway .. .. .	6	..	11
Other locations .. .. .	6	3	6
Total .. .. .	1 454	126	2 046

The previous table analyses all accidents according to the road features at the site and shows that 36 per cent of accidents occurred on a straight section of road in 1973-74.

### Road Users Killed or Injured

The next table analyses the type of road user killed or injured:

Type of Road User Killed or Injured, 1973-74

Type of road user involved	Killed			Injured		
	Males	Females	Persons	Males	Females	Persons
Drivers of motor vehicles ..	47	5	52	637	206	843
Motor cyclists .. ..	12	..	12	172	12	184
Pedal cyclists .. ..	1	..	1	31	2	33
Passengers—						
Motor vehicle .. ..	30	13	43	349	414	763
Motor cycle .. ..	1	..	1	12	12	24
Pedal cycle .. ..	..	..	..	..	..	..
Pedestrians .. ..	11	5	16	129	69	198
Other .. ..	..	1	1	..	1	1
Total .. ..	102	24	126	1 330	716	2 046

### Types of Accidents

Most accidents arise from collisions between vehicles, followed by vehicles overturning or leaving the road, as shown in the following analysis:

Types of Accidents, 1973-74

Types of accidents	Accidents involving casualties	Persons killed	Persons injured
Collisions between vehicles—			
Angle .. ..	410	28	579
Head on .. ..	131	18	267
Rear end .. ..	104	1	139
Side swipe—Same direction .. ..	42	1	55
Opposite direction .. ..	44	7	68
Vehicle—			
Overturning or leaving road .. ..	431	53	615
Colliding with—Fixed object (incl. parked vehicle) ..	75	2	104
Pedestrian .. ..	203	16	198
Animal .. ..	7	..	12
Passenger accidents .. ..	6	..	8
Other types of accidents .. ..	1	..	1
Total .. ..	1 454	126	2 046

### Age and Responsibility

Drivers of motor vehicles (excluding motor cycles) were believed responsible for 1 053 out of the 1 454 accidents involving casualties which were reported to the police during 1973-74.

Drivers under 25 accounted for 511 or 48.5 per cent of these accidents (male drivers under 25, 441; female drivers under 25, 70).

Casualties associated with accidents attributed to drivers under 25 were: killed, 58; injured 808.

The following table analyses the age and sex of the drivers responsible:

**Road Traffic Accidents, 1973-74**  
**Age and Sex of Drivers of Motor Vehicles Responsible**

Age group of drivers responsible (in years)	Male driver			Female driver		
	Accidents involving casualties	Persons killed (a)	Persons injured (a)	Accidents involving casualties	Persons killed (a)	Persons injured (a)
Under 17 ..	18	4	33	2	..	2
17-20 ..	275	34	438	32	1	55
21-24 ..	148	18	233	36	1	47
25-29 ..	106	8	157	26	1	31
30-39 ..	105	13	167	32	1	53
40-49 ..	77	4	108	29	1	42
50-59 ..	66	7	96	24	2	39
60 and over ..	55	2	82	13	..	18
Not stated (b)	8	1	8	1	..	1
Total ..	858	91	1 322	195	7	288

(a) The age groups relate to the driver who may, or may not be included in the casualty figures.

(b) Includes accidents for which hit-run drivers were responsible.

**Age and Sex of Road Users Killed**

The next table shows the age and sex of the various types of road user killed:

**Road Traffic Accidents, 1973-74**  
**Age and Sex of Road Users Killed**

Age group (in years)	Type of road user killed					All road users
	Drivers of motor vehicles	Motor cyclists	Pedal cyclists	Passengers (all types)	Pedestrians	
MALES						
Under 7 .. ..	..	..	..	3	2	5
7-16 .. ..	2	3	1	3	1	10
17-20 .. ..	12	8	..	13	1	34
21-29 .. ..	17	1	..	10	1	29
30-39 .. ..	7	..	..	1	1	9
40-49 .. ..	1	..	..	..	2	3
50-59 .. ..	5	..	..	..	1	6
60 and over ..	3	..	..	1	2	6
Not stated ..	..	..	..	..	..	..
Total ..	47	12	1	31	11	102
FEMALES						
Under 7 .. ..	..	..	..	1	..	1
7-16 .. ..	..	..	..	2	1	3
17-20 .. ..	1	..	..	3	..	(a) 5
21-29 .. ..	1	..	..	3	1	5
30-39 .. ..	..	..	..	..	..	..
40-49 .. ..	1	..	..	1	1	3
50-59 .. ..	2	..	..	2	..	4
60 and over ..	..	..	..	1	2	3
Not stated ..	..	..	..	..	..	..
Total ..	5	..	..	13	5	24

(a) Includes one horse rider.

*Days of the Week on Which Accidents Occurred*

The following table shows accidents and casualties according to the day of the week on which they occurred:

**Road Traffic Accidents, 1973-74**  
**Days of the Week on Which Accidents Occurred**

Day of the week	Accidents involving casualties	Persons killed	Persons injured
Monday .. .. .	158	9	194
Tuesday .. .. .	163	7	212
Wednesday .. .. .	185	13	227
Thursday .. .. .	179	15	232
Friday .. .. .	231	26	331
Saturday .. .. .	317	28	484
Sunday .. .. .	221	28	366
Total .. .. .	1 454	126	2 046

**No-Fault Third Party Insurance**

'No-fault' third party insurance was introduced in Tasmania on 1 December 1974 under the *Motor Accidents (Liabilities and Compensation) Act 1973*. Prior to the introduction of the 'no-fault' scheme, motorists were compelled to insure with insurance companies against claims by other persons resulting from motor vehicle accidents. The success of a claim was dependent upon the claimant proving negligence (or fault) on the part of the driver of a motor vehicle. 'No-fault' insurance, however, entitles a person to compensation for injuries sustained in a motor vehicle accident without regard to who was at fault. The extent of the compensation is determined by the scheduled benefits outlined in the Act. The operation of the scheme does not, however, preclude the individual from suing for damages should it be felt that the scheduled benefits are insufficient compensation and that the accident was the result of negligence. Insurance is compulsory under the Act.

*Premiums*

The initial level of premiums under the scheme was considerably higher than premiums payable under the old third party insurance scheme. Premiums vary according to the type of vehicle and the purpose for which it is used. The basic annual premium for a private motor vehicle was \$35 from 1 December 1974 and is subject to review annually. Owners whose cover under the old scheme extended beyond 1 December 1974 were required to pay additional premiums on renewal to cover the additional benefits of the no-fault scheme to which they were automatically entitled from that date.

*Scheduled Benefits*

The more important of the scheduled benefits prescribed in the Act are:

- (i) Medical, hospital and ambulance expenses.
- (ii) Weekly disability allowance for employed persons or housewives.
- (iii) Dependant's allowance.
- (iv) Death benefits.
- (v) Funeral benefits.

### *Motor Accidents Insurance Board*

The Motor Accidents Insurance Board, set up to administer the Act, consists of five members who are appointed by the Governor. The chairman, a legal practitioner, is appointed directly and the other four members are each appointed on the recommendation of one of the following organisations: (i) the Tasmanian Government Insurance Board; (ii) participating insurers other than the Tasmanian Government Insurance Board; (iii) the Transport Commission; and (iv) the Royal Automobile Club of Tasmania (representing the interests of motor vehicle users). The Board may enter into agreements with insurance companies to allow them to act as agents in the administration of the Act.

## AIR TRANSPORT IN TASMANIA

### Introduction

On 16 December 1919, Lt Arthur Long of the Army Flying Corps crossed Bass Strait to Melbourne. Shortly afterwards he started an aerial newspaper-carrying business between Hobart and Launceston.

In January 1931 a scheduled air service from Melbourne to Hobart was commenced by Australian National Airways, but it only operated until June 1931. Separate Launceston-Flinders Island services were commenced in 1932 by L. Johnson and the Holyman brothers—these two services were soon merged to become Tasmanian Aerial Services.

Across Bass Strait services were reintroduced in 1933 by two operators (Matthews Aviation operating via King Island and Hart Aircraft via Flinders Island). In the same year Tasmanian Aerial Services extended their Launceston-Flinders Island run to Melbourne. Matthews Aviation and Hart Aircraft ceased operations in 1934 and Tasmanian Aerial Services was reformed and renamed Holymans Airways. The company introduced, in October 1934, four-engined DH86 bi-planes on the Bass Strait routes—six crossings were made each week (three via King Island and three via Flinders Island). In 1936 Holymans put a Douglas DC2 monoplane on a daily Melbourne-Launceston-Hobart service in addition to the DH86 services. In November 1936 Holymans merged with Adelaide Airways and West Australia Airways—the new company was named Australian National Airways.

In November 1946 the newly-formed Australian Government airline, Trans-Australia Airlines, began services from Melbourne to Launceston and Hobart. Ansett Airways entered the Tasmanian air service in November 1946. (Ansett Airways and A.N.A merged in 1957 to become Ansett-A.N.A.; this name was changed in 1968 to Ansett Airlines of Australia.)

Currently, Ansett Airlines of Australia and Trans-Australia Airlines operate the greater percentage of passenger traffic to and from the Tasmanian mainland with 106 jet aircraft and 58 propjet aircraft per week. PAGAS (Port Augusta Air Services Pty Ltd) operate a commuter service between Melbourne and Flinders Island five days per week.

Supplementary intrastate services began during 1964 and at present there are two commuter services operating—Air Tasmania (connecting the ports of Launceston, Devonport, Wynyard, Queenstown and Strahan with Hobart) and Executive Airlines (operating between Launceston and Flinders Island and Launceston and King Island via Wynyard).

Air freight is carried regularly between Melbourne and the major Tasmanian ports and islands in a variety of aircraft ranging from Lockheed Electras of Ansett Airlines of Australia and quick-change Fokker F27 aircraft of Trans-Australian Airlines, to the Argosy, DC3 and Bristol Freighters of the major charter operators.

*Air Transport and Land Use Planning*

Because of the importance of aviation to Tasmania, efforts are being made to have transportation studied as an integrated system to maximise returns on investment in transport facilities. This requires close co-operation between federal, state and local governments since policy decisions in relation to air transport not only affect other transport methods but also have an impact on land use in areas adjacent to airport terminals. In Tasmania, the Tasmanian Airfields Committee has been established to co-ordinate airport developments and adjacent land development.

*Administration of the Air Navigation Act and Regulations in Tasmania*

The Federal *Air Navigation Act* 1920-1974 and associated regulations are administered for Tasmania by the Regional Director, Department of Transport, Victoria-Tasmania Region. The authority is the Australian Department of Transport. The Department's more important functions include the provision and maintenance of government aerodromes and associated facilities, the licensing of aircraft and pilots and a responsibility for supervising all aspects of air safety.

*Classification of Flying Activities*

Flying activities are classified by regulation into the following well-defined categories:

- (i) *Private Operations*: Private use of aircraft may be gauged by the fact that there were 527 licensed private pilots in the State in June 1975.
- (ii) *Aerial Work Operations*: These operations refer to aircraft used for aerial survey; spotting; photography; agriculture; advertising; flying training; ambulance service; or for the carriage of goods owned by the pilot, the owner or the hirer, for the purposes of trade. Within Tasmania there are four licensed flying training organisations and two aerial agricultural organisations carrying out most of the aerial work activities.
- (iii) *Charter Operations*: These refer to aircraft hired for passenger or freight movement, but not according to fixed schedules, or to and from fixed terminals. There were 11 licensed charter operators based in Tasmania in June 1975.
- (iv) *Commuter Operations*: These are charter operations on a fixed schedule, and to or from fixed terminals; they are authorised by an exemption granted under Air Navigation Regulations. Tasmania has two approved operators.
- (v) *Regular Public Transport*: This refers to aircraft carrying freight and passengers according to fixed schedules, and operating on specified routes. All services of this kind are provided in Tasmania by T.A.A. and Ansett Airlines.

*Tasmanian Aerodromes*

The major aerodromes in Tasmania are owned and operated by the Australian Government through the Department of Transport. Since 1957 the Australian Government policy has been that aerodromes (except capital city airports) should be owned and operated by local authorities under the local ownership plan. The following describes both Australian Government-owned and other aerodromes in use at 30 June 1975.

*Australian Government-owned Aerodromes*

*Hobart Airport:* Ranks seventh in the volume of passengers handled at Australian terminals. It was completed in 1956. Extension and strengthening of the runway, taxiway and aprons to take DC9 and Boeing 727 aircraft at full weight was completed in 1966. The airport is equipped with complex aviation aids. New terminal and communications buildings are scheduled for completion in 1976. Formerly 18 kilometres by road from the city, the airport became isolated when the Tasman Bridge disaster made a 71 km coach journey necessary for most of 1975. A helicopter charter service operates between the airport and the city.

*Launceston Airport:* 16 kilometres south-east of Launceston, it ranks next after Hobart in passenger volume but handles considerably more freight. The area control centre provides air traffic control for Tasmania via repeater stations, south on Mt Wellington and north on Mt Barrow. The airport is also used for flying training, light aircraft charter and aerial work operations.

*Devonport Airport:* This was originally constructed in the early 1930's. In 1950 it was developed to handle DC3, DC4 and Viscount type aircraft. Regular passenger services (using F27 aircraft), aerial and charter work, flying training and private operations are carried on from this location.

*Wynyard Airport:* This has one sealed runway of 1 341 metres and one 1 189 metres long for regular public transport operations, charter, aerial work and private operations.

*King Island Airport:* Is located six kilometres north-east of Currie. It has three gravel runways, night lighting and radio navigational equipment.

*Flinders Island Airport:* Is located five kilometres north of Whitemark. There are two gravel and one grass landing strips plus an apron, taxiway, terminal and navigation aid facilities.

*Cambridge Airport:* This was constructed during the early period of aviation and has four runways. The proximity of hills prevent further development and after completion of the Hobart Airport, Cambridge became a centre for light aircraft activities.

*Locally Owned Aerodromes*

*Smithton Airport:* Located three kilometres west of Smithton, it is owned by the Transport Commission. It has a sealed main runway plus lesser gravel strips and is used for itinerant charter and private flights.

*St Helens Airport:* The aerodrome is owned and operated by the municipality of Portland. A grassed strip 1 189 metres long and 91 metres wide is of sufficient dimension to permit operations by DC3 and F27 type aircraft. The aerodrome currently serves the charter, aerial work and private operation requirements for the area and has a non-directional beacon for instrument navigation.

*Queenstown Airport:* The Municipality of Queenstown provided an authorised landing area for light aircraft in 1937. In 1963 work was commenced on the construction of a runway suitable for the operation of DC3 type aircraft at Queenstown under the local ownership plan; it was opened on 17 April 1966.

*Strahan Airport:* The port of Strahan serves the west coast of Tasmania and, in particular, the Queenstown and Zeehan areas. Opened for regular public transport operations in 1964, Strahan aerodrome was constructed under the aerodrome local ownership plan and is owned by the Municipality of Strahan.



**Aircraft, Passenger and Freight Movements**

The following table shows the number of aircraft movements at the principal airports in Tasmania during recent years. For the purposes of the statistics in this table a take-off is regarded as one movement and a landing as another.

**Aircraft Movements: Principal Airports**

Year	Hobart (a)	Launceston	Devonport	Wynyard	King Island	Flinders Island
1970 .. ..	6 301	10 463	3 649	3 727	1 297	600
1971 .. ..	6 404	11 165	4 039	4 056	1 221	609
1972 .. ..	6 254	10 581	4 147	4 144	1 283	591
1973 .. ..	7 061	11 297	4 982	4 769	1 279	604
1974 .. ..	7 599	10 982	5 409	5 148	1 079	349

(a) The phasing-out of turbo-prop aircraft and the introduction of pure jet aircraft has increased carrying capacity and reduced the number of flights required.

The next table shows the volume of passengers and freight handled at each airport; the following definitions apply:

*Passengers:* The figures are for fare-paying passengers only at each airport and are the sum of embarkations and disembarkations.

*Freight:* The figures are the sum of all revenue freight (including excess baggage) loaded and unloaded at each airport.

**Passenger and Freight Movements: Principal Airports (a)**

Year	Hobart	Launceston	Devonport	Wynyard	King Island	Flinders Island
PASSENGERS ('000)						
1970 .. ..	209	186	67	64	20	10
1971 .. ..	226	205	76	71	23	10
1972 .. ..	236	216	76	69	23	11
1973 .. ..	345	271	95	82	26	12
1974 .. ..	392	299	107	91	22	7
FREIGHT (Tonnes)						
1970 .. ..	6 706	9 514	290	281	395	188
1971 .. ..	6 749	9 730	333	286	471	161
1972 .. ..	6 487	9 701	318	266	401	118
1973 .. ..	6 449	12 368	434	304	287	118
1974 .. ..	7 130	12 131	404	343	220	60

(a) See definitions preceding this table.

**Comparison of Principal Australian Airports**

The next table shows the volume of activity at the principal Australian airports in terms of the number of passengers, freight and aircraft movements. Details of international services have been excluded so that comparisons are purely in terms of domestic traffic (international services are centred on Melbourne, Sydney, Brisbane and Perth).

**Australia: Principal Airports**  
**Passengers, Freight and Aircraft Movements (a), 1974**

Airport	Passengers	Freight (tonnes)	Aircraft movements
Sydney (a) .. .. .	4 860 504	53 003	91 108
Melbourne .. .. .	3 990 847	61 188	72 073
Brisbane .. .. .	2 142 407	28 386	40 534
Adelaide (b) .. .. .	1 425 860	18 957	24 225
Canberra .. .. .	961 375	4 122	20 682
Perth (b) .. .. .	667 684	11 316	12 141
Hobart .. .. .	391 770	7 130	7 599
Launceston .. .. .	298 566	12 131	10 982

(a) See definitions earlier in this section.

(b) Partially estimated.

## POSTAL AND TELECOMMUNICATIONS SERVICES

### Introduction

Prior to 1 July 1975 the Postmaster-General's Department provided and controlled postal and telecommunications services in Tasmania, supported by engineering, finance and accounting, supply, personnel and administrative establishments. From 1 July 1975 control of these services has been vested in two commissions: the Australian Postal Commission and the Australian Telecommunications Commission. The Postal Commission now controls the collection, processing and delivery of mail, postal order and stamp-sales and other postal services while the Telecommunications Commission is responsible for the provision and maintenance of all telephone and telegraph services.

### Postmaster-General's Department

Since the inception of the Postal and Telecommunications Commissions the major function of the Postmaster-General's Department has been the regulation and licensing of radio communication stations. These are described in a later section. The following tables, however, show employment details and financial operations of the Postmaster-General's Department prior to the inception of the two commissions.

#### Employment

The next tables analyse the total number employed by the Department in Tasmania:

**Postmaster-General's Department**  
**Persons Employed by Category at 30 June 1974**

Office staff (a)	No.	Others	No.
Permanent officers .. .. .	2 812	Non-official postmasters and staff ..	255
Temporary and exempt officers (b)—		Telephone office keepers .. .. .	3
Full-time .. .. .	626	Mail contractors (c) .. .. .	175
Part-time .. .. .	113		
Total .. .. .	3 551	Total .. .. .	433

(a) 'Office staff' are those directly under the control of the Department. The remainder shown as 'others' provide services, which may or may not occupy them full time, under contract or in return for payments appropriate to work performed.

(b) Exempt staff are persons exempt from the provisions of the *Public Service Act* (federal).

(c) Includes persons employed to drive vehicles.

## Persons Employed at 30 June (a): Summary

Year					Number	Year					Number
1965	..	..	..	..	4 169	1970	..	..	..	..	4 030
1966	..	..	..	..	4 254	1971	..	..	..	..	3 828
1967	..	..	..	..	4 247	1972	..	..	..	..	3 897
1968	..	..	..	..	4 188	1973	..	..	..	..	3 911
1969	..	..	..	..	4 034	1974	..	..	..	..	3 984

(a) Total full-time and other persons included in preceding table.

*Revenue and Expenditure*

The table that follows gives details of the financial operations of the Department in Tasmania. The following points of explanation are necessary:

*Cash Receipts:* Prior to 1968-69, cash receipts were paid into the Australian Government Consolidated Revenue Fund; since 1968-69, they have been paid into the Post Office Trust Account which forms part of the Trust Fund of the Australian Government.

*Cash Expenditure:* Up to, and including 1967-68, cash payments for 'non-capital works' and 'capital works' were made from the Australian Government Consolidated Revenue Fund. From 1968-69, cash expenditures were made from the Post Office Trust Account. Interest and superannuation liability are not brought to account in this table.

## Postmaster-General's Department: Financial Operations in Tasmania, 1973-74

Cash receipts (a)					Cash expenditure (b)						
Particulars					\$'000	Particulars					\$'000
Postal	..	..	..	..	5 586	Salaries and wages	..	..	..	22 238	
Telephone	..	..	..	..	21 075	Material	..	..	..	5 461	
Telegraph	..	..	..	..	604	Carriage of mails by contractors	..	..	..	360	
Proceeds of sales	..	..	..	..	336	Buildings, sites and properties	..	..	..	1 264	
Recoverable works	..	..	..	..	815	Accommodation services	..	..	..	819	
International services	..	..	..	..	85	Other (c)	..	..	..	1 477	
Total	..	..	..	..	28 501	Total	..	..	..	31 619	

(a) Excludes revenue earned but not actually received.

(b) Excludes expenditure incurred but not actually paid.

(c) Includes travelling allowances, repairs to plant, engineering works and hire of vehicles.

**Australian Postal Commission**

Apart from its obvious role of providing postal services the Commission also provides a money order and postal order service and also acts as an agent for a number of other instrumentalities in transactions which include: savings banks deposits and withdrawals; War Service Homes repayments; sale of State duty stamps; and sale of taxation instalment stamps.

*Money Orders:* An order may be obtained for sums up to \$200 on a single order. Orders for overseas are limited to \$100, and a remitter may send only one such order in any week.

*Postal Orders:* Postal Orders provide security since they can be traced and may also be 'crossed' like a bank cheque. The highest denomination is \$20.

### The Postal Service

The first long-distance overland mail service in Australia was started between Hobart and Launceston in 1816, the carrier walking both ways and taking a fortnight for the round trip.

By 1835 Hobart Town and its environs was served by a thrice daily, two-penny post; today the service is once per day at a cost of 18 cents.

The number of individual postal articles handled in Tasmania in 1974-75 amounted to 60 million compared to 64 million in 1973-74. The Post Office handled 2 682 million articles throughout Australia in 1974-75 compared to 2 818 million in the previous year.

All letter class mail, within the dimensions of *Poste Haste*, to and from Tasmania is carried by air, free of airmail surcharge, while the bulk of 'other article' mail is received and despatched daily by ship. In the more heavily populated areas of the State, one mail delivery is made daily except in the Hobart inner-city area where two deliveries are made. The rationalisation of rural postal services in recent years has preceded improvement of rural mail delivery services.

The following table shows the volume of mail handled and the monetary transactions carried out in Tasmania:

Postal Services (a)

Particulars	Unit	1969-70	1970-71	1971-72	1972-73	1973-74
Post offices—Official ..	no.	52	50	46	46	46
Non-official ..	no.	322	307	288	284	251
Postal traffic (b)—						
Letters, postcards, etc. ..	'000	58 824	57 916	54 780	56 328	56 438
Newspapers, books, etc. ..	'000	8 953	8 640	6 773	6 859	6 834
Parcels ..	'000	300	353	352	358	289
Registered articles ..	'000	312	313	268	228	203
Money orders—						
Issued—No. ..	'000	265	214	166	165	149
Value ..	'000	5 229	4 624	4 335	4 416	4 629
Paid—No. ..	'000	211	167	128	128	115
Value ..	'000	4 516	4 257	3 721	3 826	3 960
Postal Orders—						
Issued—No. ..	'000	428	496	498	505	507
Value ..	'000	871	1 295	1 514	1 605	1 824
Paid—No. ..	'000	223	276	263	285	288
Value ..	'000	512	784	942	1 078	1 188

(a) Controlled by Postmaster-General's Department up to 1 July 1975

(b) Number of separate articles handled.

### Australian Telecommunications Commission

#### Development of Telecommunications

Hobart and Launceston were linked by a telegraph line in 1857 and two years later a Bass Strait cable was in operation, only to fail in 1861. By 1869 a second cable was laid and communication with overseas countries became possible in 1872 when the Overland Telegraph was established between Adelaide and Darwin.

The first telephone line in Tasmania linked Hobart and Mt Nelson signal station in 1880, both Hobart and Launceston having exchanges by 1883. However, no link with Victoria or overseas countries was provided until 1936.

The State is now served with a network of high-capacity, high-quality trunk channels which are extended to other Australian states and linked with the Seacom and Compac cables connecting Australia to overseas countries. There are also links to the Overseas Telecommunications Commission earth satellite stations at Carnarvon, Ceduna and Moree.

**Telegraph:** The teleprinter exchange (TELEX) had only one Tasmanian subscriber in 1957 but 396 were connected by 30 June 1974. The TELEX service is fully automatic and subscribers can now contact each other without an exchange operator's assistance. Calls can be made automatically to many overseas countries tied in with Australian telegraphic services, while the remainder can be contacted through an exchange operator. Extensive use is made of the long established picturegram service by the press; organisations such as the Bureau of Meteorology and private companies have a similar service available for the transmission of charts and documents.

**Telephones:** The Commission is working towards a highly automated telephone system in Tasmania. More than 96 per cent of telephone subscribers in the State are connected to automatic exchanges which provide continuous service.

The installation, in recent years, of the high-capacity trunk channels, known as the Broadband System, together with modern trunk switching exchanges, has enabled the Post Office to provide Subscriber Trunk Dialling (S.T.D.) facilities for the direct dialling of trunk calls. This facility enables subscribers to make direct long-distance calls to anywhere in Australia by simply dialling the required number. Over 94 per cent of telephone subscribers in Tasmania have access to S.T.D. which avoids the delays associated with manually-operated exchanges. Charges are based on actual time used and there is no minimum time period as with manually booked trunk calls.

Facilities for Data Transmission are also available from the Commission in Tasmania. An extension in the use of UHF (ultrahigh frequency) radio to provide mobile telephone services from vehicles is foreseen and the introduction of a radio paging system is under development.

The policy in recent years has been to install underground cables which have higher traffic densities than overhead wires. This policy has resulted in a reduction of overhead wires which is illustrated in the following table:

Cable and Aerial Wire Kilometres at 30 June

Particulars	1970	1971	1972	1973	1974
Aerial wire, single wire .. .. .	52 811	45 548	37 728	31 434	28 702
Conductors in cable, single wire (a) ..	1 225 194	1 276 195	1 343 912	1 401 030	1 468 978
Co-axial cable, tube .. .. .	906	943	943	943	958

(a) Mainly underground.

### Telephone and Telegraph Services

**Telephones:** The following tables analyse the telephone and telegraph services in Tasmania:

Telephone Services at 30 June: Operating Services (a)  
(<sup>'000</sup>)

Particulars	1969	1970	1971	1972	1973	1974
Services in operation—						
Business .. .. .	33.3	35.8	36.5	37.3	37.9	37.8
Residential .. .. .	35.6	37.8	41.3	43.2	46.4	50.5
Public telephones .. .. .	1.1	1.1	1.1	1.1	1.1	1.1
Instruments in operation .. .. .	98.3	104.8	108.5	112.6	118.4	126.8

(a) Telecommunications services controlled by Postmaster-General's Department prior to 1 July 1975.

## Telecommunications (a)

Particulars	Unit	1969-70	1970-71	1971-72	1972-73	1973-74
Telephone—						
Automatic service subscribers .. .. .	'000	66	72	76	80	86
Manual service subscribers	'000	8	6	5	4	3
Subscribers with access to S.T.D. .. .. .	'000	52	60	71	77	84
Automatic exchanges ..	no.	161	167	178	183	189
Manual exchanges ..	no.	112	90	60	47	35
Value of calls made—						
Metered (local and S.T.D.)	\$'000	4 667	5 621	7 263	8 430	10 354
Trunk .. .. .	\$'000	2 497	2 503	2 477	2 562	2 585
Public telephone (local and trunk) .. ..	\$'000	448	465	510	558	601
Telegraph—						
Phonograms lodged ..	'000	295	266	231	259	256
All telegrams lodged (b) ..	'000	566	534	494	473	472

(a) Telecommunications services controlled by Postmaster-General's Department prior to 1 July 1975.

(b) Includes telegrams lodged by telephone (i.e. phonograms).

## RADIO COMMUNICATION

## Stations in Tasmania

Number of Authorised Radio Communication Stations at 30 June  
(Two-way Services)

Particulars	1969	1970	1971	1972	1973	1974
Fixed stations (a)—						
Aeronautical .. ..	8	8	7	..	..	..
Outpost (b) .. ..	17	16	17	17	16	14
Other .. .. .	61	89	108	92	103	110
Total .. .. .	86	113	132	109	119	124
Land stations (c)—						
Aeronautical .. ..	7	8	8	8	8	7
Base stations for—						
Land mobile services ..	350	401	453	478	523	627
Harbour mobile services	14	16	13	8	7	8
Coast (d) .. .. .	29	29	27	32	36	37
Special experimental ..	17	17	16	18	16	16
Total .. .. .	417	471	517	544	590	695
Mobile stations—						
Aeronautical .. ..	32	38	47	42	48	52
Land mobile services ..	2 985	3 489	3 867	4 201	4 606	4 562
Harbour mobile services	65	72	78	70	69	82
Outpost .. .. .	71	60	58	72	43	45
Ships .. .. .	483	507	569	625	691	781
Total .. .. .	3 636	4 166	4 619	5 010	5 457	5 522
Amateur stations .. ..	238	244	231	229	224	229
Grand total .. ..	4 377	4 994	5 499	5 892	6 390	6 570

(a) For exchange of radio messages with other similar stations.

(b) Stations established in remote localities for communication with control stations, e.g. the lighthouse service.

(c) For exchange of radio messages with mobile stations.

(d) Land stations for communication with ocean-going vessels.

The table above relates to radio communication (radio telegraph and radio telephone) stations only; particulars of broadcasting stations are specifically excluded and are dealt with in a subsequent section.

To establish and operate radio communication equipment as previously described, it is necessary to obtain a licence from the Postmaster-General's Department which is responsible for overall management of the radio frequency spectrum involving the following radio regulatory functions: (i) frequency allocation; (ii) frequency measuring and radio monitoring; (iii) determination of equipment standards; (iv) conduct of examinations for Radio Operators' Certificates of Proficiency; (v) inspectoral functions; and (vi) licensing formalities. The radio frequency spectrum is a national resource although it is somewhat different from other resources such as minerals, water, fuels, fisheries, forestry, etc. The radio frequency spectrum is used and not consumed and it is wasted when not used correctly. It is for this reason that the Postmaster-General's Department makes every effort to ensure interference-free operation for all services.

Some examples of the use to which this form of communication is put, include: (i) the police networks for intrastate signals and for links with police cars; (ii) coastal radio service to ships at sea (the same service provides links with outpost transmitters in the State's remote areas, e.g. Port Davey); (iii) army network with direct link to Melbourne; (iv) fire brigade network operating in the area controlled by each authority; (v) fishermen's network with base stations at Triabunna, Dunally, Bicheno, St Helens, Lady Barron, Currie, Stanley and Strahan; (vi) lighthouse network (the source of weather reports at remote coastal stations); (vii) special purpose networks of various authorities, e.g. Hydro-Electric Commission, Forestry Commission, ambulance services, etc.; (viii) marine boards' V.H.F. networks (international channel) for ship-to-shore link with overseas vessels; (ix) the mine networks, e.g. central control linked to outposts engaged in blasting; and (x) freighting services, taxi networks, etc.

## RADIO AND TELEVISION BROADCASTING

### General

In Australia radio and television services are provided both from commercial and Australian Government transmitters; the federal *Broadcasting and Television Act 1942-75* governs the operation of services designated to the national broadcasting service, the national television service, the commercial broadcasting service and the commercial television service.

### The National Services

The national services (both radio and television) are provided by the Australian Broadcasting Commission which has sole responsibility for programme material; the actual transmitters are operated by the Australian Telecommunications Commission.

### The Commercial Services

The commercial services (both radio and television) are operated under licences granted by the Minister for Post and Telecommunications, who, in exercising his licensing powers, takes into consideration recommendations made by the Australian Broadcasting Control Board. The revenue of the commercial services is obtained from advertising. Licence fees, payable to the Australian Broadcasting Control Board, are charged on a sliding scale from one per cent to four and one half per cent of gross advertising revenue.



### *The Australian Broadcasting Control Board*

Although the commercial services are operated as private enterprise undertakings, the Board exercises control in certain fields, by prescribing programme standards, laying down rules for advertising time and advertising content, determining hours of operation, and by establishing and supervising operational standards. The Board allocates frequencies for transmission and investigates applications for the establishment of stations. In all these functions, it works under the jurisdiction of the Minister for Post and Telecommunications.

#### *Hours of Transmission*

At 30 June 1975, eight commercial radio stations were operating in Tasmania; two in the Hobart area each averaging 168 hours weekly; six elsewhere in the State averaging 118.45 hours weekly. The corresponding figures for the two commercial television stations were 71.35 hours weekly in the Hobart area, and 67.40 hours in the Launceston area.

### **Programme Standards—Commercial Stations**

#### *Broadcasting Standards*

Licencees are required to provide programmes in accordance with standards determined by the Australian Broadcasting Control Board. These standards contain requirements for the acceptability of programme material and advertising. There are special provisions dealing with family and children's programmes designed to ensure that all programmes broadcast at times when large numbers of children and young persons are listening will be suitable for this category of listener. Special provisions relate to the duration and suitability of advertisements; with regard to their duration the standards require, for example, that advertisements in a sponsored programme should not exceed 20 per cent of the programme time and that in the case of programmes during which spot advertisements are broadcast, advertisements should not exceed 30 per cent of programme time. Not more than 18 minutes of spot advertising may be included in any period of 60 minutes.

Also under the *Broadcasting and Television Act 1942-75*, licenseees are required to broadcast religious services, or other matter of a religious nature during such periods as the Board determines. The minimum time set by the Board is one hour per week but many stations are providing, free of charge, considerably more time than required for religious broadcasts.

#### *Television Standards*

The Board has prescribed programme standards for commercial television, and these, as in the case of radio, contain requirements for the acceptability of programme material and advertising. The standards contain special provisions designed to protect the interests of children and young persons with respect to televised material shown prior to 7.30 p.m. The advertising standards relate to the suitability, number, content and duration of advertisements; with regard to their duration, the standards make the distinction between prime time (7.00 p.m. to 10.00 p.m.) and non-prime time. Broadly, advertisements should not occupy more than 11 minutes in each clock hour in prime time and not more than 13 minutes in each clock hour in non-prime time.

#### *Australian Content*

Section 114 of the *Broadcasting and Television Act* provides that commercial stations shall as far as possible employ the services of Australians in the production and presentation of programmes. It also provides that not less than five per cent of the time occupied by music on radio stations shall be devoted to works of Australian composers.

Programme category	Commercial programmes	National programmes
	per cent	per cent
Cinema movies .. .. .	18.5	4.8
Other drama .. .. .	31.9	15.3
Light entertainment .. .. .	18.1	7.5
Sport .. .. .	9.4	15.6
News .. .. .	6.0	6.4
Children .. .. .	5.0	20.6
Family activities .. .. .	5.0	1.2
Information .. .. .	1.3	5.4
Current affairs .. .. .	3.0	6.9
Political matter .. .. .	0.1	0.4
Religious matter .. .. .	1.7	1.8
The arts .. .. .	..	1.2
Education .. .. .	..	12.9
Total .. .. .	100.0	100.0

### Television Stations in Operation

The next table gives details of the television stations in operation:

Television Stations in Operation, 30 June 1975

Call sign and channel	Area	Transmitter location	Height above sea level—top of aerial (metres)	Hours of service (weekly)
NATIONAL				
ABT 2 .. .. .	Hobart	Mt Wellington	1 344	89.15
ABNT 3 (a) .. .. .	NE. Tasmania	Mt Barrow	1 457	89.15
ABKT 11 (a) .. .. .	King Island	Gentle Annie Hill	245	89.15
COMMERCIAL				
TVT 6 .. .. .	Hobart	Mt Wellington	1 323	71.35
TNT 9 .. .. .	NE. Tasmania	Mt Barrow	1 419	67.40

(a) Transmits programmes originating from ABT2.

### Relay of Television Programmes from Other States

Tasmania is linked with Victoria by a broadband radio link installed by the Australian Telecommunications Commission which enables the direct relay of television programmes from the mainland states.

### Microwave Links, Intrastate Relays and Translator Stations

The prime sources of programmes in Hobart are the commercial and national studios which are linked to their Mt Wellington transmitters (TVT6 and ABT2) by micro-wave links; the commercial studio in Launceston feeds programmes to its Mt Barrow transmitter (TNT9) by the same method. As there is no national studio at Launceston, the transmitter on Mt Barrow (ABNT3) relays the Hobart national programmes through the broadband radio link. This service is also available to commercial stations.

Television Translator Stations in Operation at 30 June 1975

Area served	Parent station		Local channel	
	National	Commercial	National	Commercial
Queenstown-Zeehan .. .. .	ABT2	TVT6	4	8
Rosebery-Renison Bell .. .. .	ABT2	TVT6	1	10
Taroona .. .. .	..	TVT6	..	8
Swansea-Bicheno .. .. .	..	TVT6	..	8
Smithton-Stanley .. .. .	ABNT3	TNT9	1	6
Gowrie Park .. .. .	ABNT3	TNT9	11	1
South Launceston .. .. .	ABNT3	TNT9	1	11
St Marys-Fingal Valley .. .. .	ABNT3	TNT9	1	11
Maydena .. .. .	..	TVT6	..	8
Waratah .. .. .	ABNT3	TNT9	2	10
Savage River-Luina .. .. .	ABNT3	TNT9	4	7
Strahan .. .. .	ABT2	..	10	..
Strathgordon .. .. .	ABT2	TVT6	5	8
Derby .. .. .	..	TNT9	..	11

Tasmania, due to its terrain, has areas where television reception direct from the Mt Wellington or Mt Barrow transmitters is either difficult or impossible. To provide good reception in such areas, translator stations, which are low-powered stations receiving signals from a parent station and re-transmitting on another channel to areas with poor reception, have been installed as shown in the preceding table.

### *De-icing*

In view of the temperature and weather conditions existing at Mt Wellington and Mt Barrow, precautions have been necessary to prevent the formation of ice on the aerial elements and the resultant danger of damage from falling ice.

In the case of the aerial at the Hobart national station (ABT2, Mt Wellington), the aerial elements are heated by mains power which is switched on automatically by means of a thermostat when the temperature falls below freezing point. In the case of the Hobart commercial station (TVT6, Mt Wellington), the junctions between the coaxial feeder lines and the aerial elements are protected by small plastic covers.

In the case of the Launceston (Mt Barrow) commercial station TNT9 and national station ABNT3, the whole of the aerials are covered by a plastic cylinder. The lower part of the ABNT3 mast is metal-sheathed for 57.91 metres to ward off ice which falls from the plastic cylinder and which could damage the mast.

### **Radio Stations in Operation**

The following table gives details of the radio stations in operation:

**Radio Stations in Operation at 30 June 1975**

Call sign	Classification	Location	Hours of service (weekly)
7ZL .. .. .	National	Hobart	133.00
7ZR .. .. .	National	Hobart	133.00
7NT (a) .. .. .	National	Launceston	133.00
7QN (a) .. .. .	National	Queenstown	133.00
7HO .. .. .	Commercial	Hobart	168.00
7HT .. .. .	Commercial	Hobart	168.00
7AD .. .. .	Commercial	Devonport	116.30
7BU .. .. .	Commercial	Burnie	113.30
7EX .. .. .	Commercial	Launceston	138.00
7LA .. .. .	Commercial	Launceston	129.30
7QT .. .. .	Commercial	Queenstown	98.30
7SD .. .. .	Commercial	Scottsdale	116.30

(a) Transmits, in the main, programmes originating from 7ZL and 7ZR.

Although there are areas of poor reception due to difficult terrain, most of Tasmania receives a satisfactory radio service from one or more of the above stations. In addition, the northern part of the State receives a service from some mainland stations.

The structure and population distribution in the State has given rise to a regional pattern of radio stations with concentrations in Hobart and Launceston and outlying stations in the north-east, north-west and west.

## THE TASMAN BRIDGE DISASTER

### The Collision

At 9.27 p.m., on Sunday 5 January 1975, the Australian National Line ore carrier *Lake Illawarra*, bound upstream for the Electrolytic Zinc Company's works at Risdon with a cargo of 10 500 tonnes of zinc concentrate, collided with the Tasman Bridge. The freighter, which had a gross tonnage of 7 274 tons and was 140 metres long, collided first with the pile cap of pier 18 and then with that of pier 19 (piers are numbered consecutively from the western shore abutment—originally there were 21 piers and 22 spans between the shore abutments). The supporting pile groups were wrecked, the pier columns and the three spans supported by them collapsed and a large section of the bridge deck fell onto the bow of the ship, sinking it. This left the bridge with a 128-metre gap and piers 17 and 20 damaged. Falling wreckage also damaged one pile and the pile cap of pier 20. Seven of the *Lake Illawarra's* crew of 42 died but the remainder were rescued. In addition, a number of cars crossing the bridge at the time plunged into the river 30 metres below, thus adding another five to the death toll. Fortunately, the disaster did not occur during a period of peak traffic flow when the death toll could be expected to have been much higher. Not all bodies were recovered due to the very difficult conditions on the river bed. The *Lake Illawarra* and bridge debris sank in water over 30 metres deep, with the ship at an angle to the bridge and the badly crushed bow partly overlapping the original group of piles for pier 19. A large amount of debris was spread over the area and hampered assessment of the damage by divers.

### The Effects of Severing the Link

It was obvious immediately that Hobart would be without her critical link across the Derwent for some considerable time and that restoration work might be prevented until salvage experts had removed the bridge debris and the freighter. As it turned out, plans for the reconstruction of the damaged portion of the bridge were not finalised and announced until the beginning of June, almost five months after the disaster. The time required for restoration at this stage was estimated to be two and a half years.

A report released at the beginning of April by the Tasman Bridge Compensation Committee estimated that the costs to the community caused by the collapse of the Tasman Bridge were \$26m per year. (This Committee had been formed just over one month earlier with the aim of initiating legal proceedings to recover damages on behalf of its members and others who wished to join in such action against the Australian National Line and/or such other persons, corporations or governments as were found liable for the bridge collapse.) In the report of the Joint Expert Advisory Committee on a second Derwent crossing (completed in May 1975) it was stated:

'Since the severance of the Tasman Bridge connection there has been a widespread disruption to the life of Hobart's residents. This has not been confined to those on the eastern shore who commute to the centre, but has affected the commercial and social activities of all Hobart.'

Until 5 January 1975 the 1 025-metre Tasman Bridge had been the vital four-lane link joining Hobart to its eastern shore suburbs. Estimates compiled for 30 June 1974 gave this picture of the eastern-western distribution of population:

**Population of Hobart-Centred Area, 30 June 1974**

Local government area	Population	Remarks
Hobart City .. .. .	52 550	Western shore
Glenorchy City .. .. .	43 960	Western shore
Kingborough Municipality (part) ..	7 540	Western shore—Taroona, Kingston, Blackmans Bay
Clarence Municipality .. .. .	40 820	Eastern shore

The destruction of the bridge meant that the inhabitants of Clarence were plunged into comparative isolation. They could still get to the western shore but a quick trip across the bridge was now replaced by the need to queue up for ferries or to drive many kilometres upstream to an older crossing, a journey that might take 1.5 hours. Ferry passengers could use their cars to get to the eastern terminals; but once disembarked on the western shore, they were reduced to the status of pedestrians, a novel but highly inconvenient experience for many.

If Clarence had developed its own industries and businesses on a large scale, the temporary loss of the bridge would have been bad enough. But the situation was made even worse by the fact that Clarence was almost exclusively a dormitory suburb with a large labour force that had to cross the water every day to work-places on the western shore.

This 'lop-sided' development, revealed in the distribution of industry and businesses (almost exclusively on the western shore), was found again in a number of other fields. The major tertiary education institutions, including the University, were all on the western shore; so were the hospitals. There had been no decentralisation of government administration so all the government offices, Federal and State, were also located on the western shore. Insurance companies, banks, solicitors, doctors, dentists: in fact the same pattern of lop-sided development emerges for any service that was considered.

The next sections go on to give the statistical background to the development of the Clarence Municipality and to describe some of its characteristics.

### **Background: The Growth of Clarence**

#### *Early Development of Hobart*

When Collins made his western shore settlement at Sullivans Cove in 1804, the settlers were separated from the eastern shore of the Derwent by almost a kilometre of deep water. This barrier determined the pattern of growth for the next 140 years: in 1942, Hobart and its suburbs had a population on the western shore of 65 000 persons whereas the Municipality of Clarence on the opposite shore had only about 4 400 persons (of these, 3 200 were living in the suburbs of Bellerive and Lindisfarne).

The key to this lop-sided development was a bridge built 20 kilometres upstream from Hobart at Bridgewater. To move by land from Bellerive to Hobart (just a kilometre by sea) involved a trip of 50 kilometres. Built in the 1830s, this bridge was still the nearest link in 1942 (and again during 1975).

#### *The Hobart Bridge*

In 1943, the eastern suburbs were linked directly to Hobart by a floating arch bridge which spanned just over 1 000 metres of water and had a lift span near the western shore. The western approach to the bridge was only 1½ kilometres

from the heart of the city while the eastern approach lay between the two suburbs of Bellerive and Lindisfarne. However, even by 1955 the bridge was unable to carry the number of vehicles using it without extreme congestion at peak periods.

The effect of this bridge on eastern shore settlement is easy to quantify as shown by these figures:

**Population of Municipality of Clarence and of a Regional Aggregate (a) Compared**

Date	Clarence Municipality	Regional aggregate (a)	Clarence as percentage of 'Regional aggregate'
31 December 1942 (estimated) .. ..	4 400	73 400	6.0
30 June 1954 (census) .. ..	12 604	106 636	11.8
30 June 1961 (census) .. ..	23 140	122 868	18.8
30 June 1964 (estimated) .. ..	27 490	129 270	21.3

(a) Clarence, Glenorchy, Hobart and Kingborough local government areas; most of the population of the first three and part of the population of Kingborough is within Urban Hobart.

### *The Tasman Bridge*

The Hobart Bridge generated such rapid population increase on the eastern shore that a demand grew for something better. In 1964 vehicles began flowing over the 1 025-metre (between shore abutments) multiple span, high level viaduct Tasman Bridge which provided four traffic lanes.

*Principal Statistics of the Tasman Bridge:* Construction commenced in May 1960 and the first traffic flowed across the new bridge 4 years and 3 months later when two lanes were opened in August 1964. The bridge became fully operational on 23 December 1964. The overall length of the Tasman Bridge (including approaches) was 1 417 metres, crossing a waterway of 1 067 metres, and the overall width was 17.4 metres. The distance of 1 025 metres between the shore abutments was spanned by 19 main viaduct spans, each a little under 43 metres long, a navigation span 94 metres long (providing a 73-metre clear waterway width below) and two anchor spans each 60 metres long (on either side of the navigation span). Clearance under the navigation span is up to 46 metres above mean sea level. The deepest pile goes down to over 80 metres below mean sea level and 216 piles of 1.37 metres diameter were used in the bridge's construction. Over 147 000 tonnes of concrete and nearly 5 300 tonnes of steel reinforcement were used in building the structure. The Tasman Bridge cost \$15.1m to build, almost double the 1958 estimate of \$7.7m.

The new Bridge was located very close to the site of its predecessor which was towed away and eventually demolished at sea. The estimated peak capacity of the Tasman Bridge on completion was 4 000 vehicles per hour, over double that of its predecessor. However, use of the bridge increased steadily and in May 1972 a system of lights and signals was introduced to allow a three-lane/one-lane tidal flow system during the peak morning and evening periods at which traffic volume had risen to about 5 000 vehicles per hour. In 1973 the State Government announced that a feasibility study into building a second bridge across the Derwent near Hobart was to be undertaken.

Following completion of the Tasman Bridge, the Clarence Municipality went on growing rapidly as demonstrated below:



## Population of Municipality of Clarence and of a Regional Aggregate (a) Compared

Date (30 June)	Clarence Municipality	Regional aggregate (a)	Clarence as percentage of 'Regional aggregate'
1966 (census) .. .. .	30 236	132 868	22.8
1971 (census) .. .. .	37 104	142 996	25.9
1974 (estimated) .. .. .	40 820	149 710	27.3

(a) Clarence, Glenorchy, Hobart and Kingborough local government areas; most of the population of the first three and part of the population of Kingborough is within Urban Hobart.

*Change in Status:* In 1942, Clarence had been one of the State's minor municipalities (population 4 400). Because of the two bridges (Hobart and then Tasman) it grew to rank third as shown by these estimates for 30 June 1974: Population of: Hobart City, 52 550 (1); Glenorchy City, 43 960 (2); Clarence Municipality, 40 820 (3); Launceston City, 34 130 (4); Devonport Municipality, 21 480 (5); Burnie Municipality, 20 480 (6).

Some indication of the comparative speed of increase in Clarence Municipality can be obtained by examining the growth of these areas in the 20-year period 1954-1974:

## Growth of Population in Selected Local Government Areas, 1954-1974

Local government area	Population at 30 June		Percentage change
	Census 1954	Estimated 1974	
Hobart City .. .. .	54 887	52 550	per cent (a) - 4
Glenorchy City .. .. .	25 810	43 960	+ 70
Clarence Municipality .. .. .	12 604	40 820	+ 224
Launceston City .. .. .	37 627	34 130	(a) - 9
Devonport Municipality .. .. .	11 827	21 480	+ 82
Burnie Municipality .. .. .	13 785	20 480	+ 49

(a) There have been increases in neighbouring municipalities so that the aggregates Urban Hobart and Urban Launceston show positive growth.

## Characteristics of Clarence Municipality

*Industry, Commerce and Employment Opportunities*

Clarence is very much a 'dormitory' suburb and its extraordinary growth since 1943 has had very little to do with industrial or commercial development. Up to 1943, there was no incentive to develop business or industry on the eastern shore: the local eastern shore market was very small and there were obvious transport disabilities if access were required to a wider market.

The bridging of the Derwent at Hobart in 1943 should have overcome the eastern shore transport disabilities and thus promoted industrial growth. However, the latter did not occur. The following figures illustrate the fact that industrial development is lop-sided:

## Manufacturing Establishments Census, 1973-74: Selected Areas

Local government area	Location	Establishments operating at 30 June	Average employment over year			Wages and salaries
			Males	Females	Persons	
Hobart City .. ..	Western shore Eastern shore	151	2 430	662	3 092	\$'000 13 949
Glenorchy City .. ..		116	5 445	1 307	6 752	34 209
Clarence Municipality ..		31	278	66	344	1 034

In fact Clarence Municipality accounted for only 2 per cent of the wages and salaries paid out in the manufacturing establishments in Urban Hobart (1973-74 Census).

Something similar can be seen in the pattern of retail trade as shown by the following figures:

## Retail Establishments Census, 1973-74: Selected Areas

Local government area	Establishments operating at 30 June	Employment (a)			Wages and salaries	Retail sales	
		Males	Females	Persons		Total	Per head of population (b)
Hobart City ..	959	4 036	4 560	8 596	\$'000 26 063	\$'000 151 675	\$ 2 888
Glenorchy City	369	1 071	1 000	2 071	5 118	46 425	1 062
Clarence Municipality ..	217	558	554	1 112	2 343	24 482	611

(a) At last pay-period in June.

(b) Based on mean population of local government area for year 1973-74.

**Urban Hobart Comparisons:** The 'pull' of Hobart City as the main shopping area is obvious from the previous table but a further comparison (between the Clarence Municipality and Urban Hobart) is possible. Urban Hobart includes most of the densely populated areas of Hobart City, Glenorchy City and the Clarence Municipality, and also a small part of the Kingborough Municipality, which together form one continuous urban area (see also the section 'Population Centred on Hobart', in chapter 6). Comparisons between the Clarence Municipality and Urban Hobart follow:

## Retail Establishments Census, 1973-74: Clarence and Urban Hobart

Particulars	Employment (a)			Wages and salaries	Retail sales
	Males	Females	Persons		
Clarence Municipality ..	558	554	1 112	\$'000 2 343	\$'000 24 482
Urban Hobart .. ..	5 589	6 074	11 663	33 233	221 255
Clarence expressed as a percentage of Urban Hobart (b)	10.0	9.1	9.5	7.1	11.1

(a) At last pay-period in June.

(b) See 'Urban Hobart Comparisons' above.

When the retail census was conducted, Clarence's mean population as a proportion of Urban Hobart's mean population was 29 per cent (which can be compared with the retail employment, wages and sales percentages shown in the previous table).

An even more revealing comparison is available from the wholesale establishments census of 1968-69:

**Wholesale Establishments Census, 1968-69: Clarence and Urban Hobart**

Particulars	Establishments operating at 30 June	Employment (a)			Wages and salaries
		Males	Females	Persons	
Clarence Municipality .. ..	14	22	8	30	\$'000 63
Urban Hobart .. ..	384	3 014	907	3 921	10 912
Clarence expressed as a percentage of Urban Hobart (b)	3.6	0.7	0.9	0.8	0.6

(a) At last pay-period in June.

(b) See 'Urban Hobart Comparisons' above.

The population relativity between these two areas for 1968-69 (mean population) was 27 persons in Clarence Municipality out of every 100 persons in Urban Hobart (for 1973-74 the corresponding ratio was 29 out of 100).

The comparisons in terms of retail and wholesale trade in the two previous tables slightly overstate Clarence's relative importance; Urban Hobart includes only the contiguous urban portions of Clarence whereas the table figures refer to the whole of Clarence Municipality.

A comparison based on the 1973-74 census of tourist accommodation establishments is also possible:

**Tourist Accommodation Census, 1973-74: Selected Areas**

Local government area	Location	Estab-lish-ments operating at 30 June	Employment (a)						Wages and salaries
			Full-time			Part-time			
			Males	Females	Persons	Males	Females	Persons	
Hobart City ..	} Western shore {	60	428	349	777	209	394	603	\$'000 5 306
Glenorchy City ..		8	36	26	62	38	61	99	556
Clarence Municipality .. ..		5	19	15	34	32	83	115	426

(a) At last pay-period in June

To summarise: the comparisons in terms of the manufacturing, retail and wholesale sectors and on the basis of tourist accommodation establishments all indicate that Clarence has developed very little as an industrial or business centre and that the main areas of activity in these sectors are located on the western shore.

### The Clarence Labour Force

Information on the Clarence labour force (employers, employees, self-employed, unpaid helpers and unemployed) is available from the 1971 census:

Population Census Classification of 1971 Clarence Labour Force

Industry	Males	Females	Persons
Agriculture, etc. .. .. .	187	24	211
Mining .. .. .	29	2	31
Manufacturing .. .. .	1 677	297	1 974
Electricity .. .. .	434	62	496
Construction .. .. .	1 285	59	1 344
Wholesale and retail .. .. .	1 892	1 183	3 075
Transport, storage .. .. .	738	60	798
Communication .. .. .	335	73	408
Finance, etc. .. .. .	702	506	1 208
Public administration, n.e.i. .. .. .	884	353	1 237
Community services .. .. .	723	1 016	1 739
Entertainment, etc. .. .. .	310	487	797
Other and not stated .. .. .	286	141	427
Unemployed .. .. .	143	120	263
Total labour force .. .. .	9 625	4 383	14 008

If this population census classification is compared with previous tables in this section, the following emerges: *manufacturing labour force* of nearly 2 000 but only about 350 employed in Clarence manufacturing establishments; *wholesale and retail labour force* of nearly 3 100 but only 1 150 employed in Clarence establishments. The definitional basis and the timing of the establishment censuses are somewhat different from those used in the population census (Clarence population at 30 June: 1971, 37 104 (census); 1974, 40 820 (estimated)) but one conclusion is still inescapable: a large section of the Clarence labour force needs to travel to the western shore daily.

### Age Distribution of Clarence Population

In the following table, there appear two age distributions:

- (i) for the total population;
- (ii) for the labour force.

Age Distribution of Clarence's Population and Labour Force, 1971

Age group	Total population			Labour force		
	Males	Females	Persons	Males	Females	Persons
0- 4 .. .. .	2 244	2 097	4 341	..	..	..
5- 9 .. .. .	2 251	2 183	4 434	..	..	..
10-14 .. .. .	2 192	2 120	4 312	..	..	..
15-19 .. .. .	1 799	1 673	3 472	952	842	1 794
20-24 .. .. .	1 369	1 410	2 779	1 148	701	1 849
25-29 .. .. .	1 354	1 396	2 750	1 257	424	1 681
30-34 .. .. .	1 321	1 358	2 679	1 253	449	1 702
35-39 .. .. .	1 171	1 101	2 272	1 109	483	1 592
40-44 .. .. .	1 168	1 142	2 310	1 112	483	1 595
45-49 .. .. .	1 082	995	2 077	1 021	414	1 435
50-54 .. .. .	807	766	1 573	739	279	1 018
55-59 .. .. .	625	662	1 287	559	193	752
60-64 .. .. .	447	484	931	345	68	413
65 and over .. .. .	756	1 131	1 887	130	47	177
Total .. .. .	18 586	18 518	37 104	9 625	4 383	14 008

At the 1971 population census, Clarence had a relatively 'young' population as shown in the next table:

Persons under 21 Years in 1971 Census: Selected Areas

Local government area	Persons under 21 years	Total population	Proportion under 21 years
			per cent
Hobart City .. .. .	18 551	52 426	35.4
Glenorchy City .. .. .	18 663	42 651	43.8
Clarence Municipality .. .. .	17 064	37 104	46.0
Tasmania .. .. .	163 503	390 413	41.9

### Other Population Affected by Bridge Disaster

The main municipality affected by the bridge disaster was Clarence since here was the largest concentration of population with the problem of getting to western work locations. Less affected were the Sorell Municipality (population estimated at 3 910 on 30 June 1974); the Tasman Municipality (1 000); and the Richmond Municipality (1 560). In Sorell and Richmond municipalities, there are a significant number of persons who travel daily to the western shore to their place of work.

### The Effect on Travel Patterns

#### *Travel Pattern Before the Disaster*

At one stage, there were no ferries connecting east and west, the whole burden of travel being carried by the Tasman Bridge. However, in the year before the disaster a private operator had put two small ferries into service and rather limited use of this service was being made; they were not employed full-time in this service and did a considerable amount of charter work (such as lunch time harbour trips with bars as an attraction).

In 1974, the average daily east-west travel on work days on the Tasman Bridge was 21 500 vehicles with average occupancy of 1.6 persons; and west-east travel was also 21 500 vehicles with similar occupancy. There were occasions when the count ran as high as 25 000 vehicles. Reverting to the 1974 average working day, the number of persons crossing could have been 34 000 in each direction. The number of crossings was substantially reduced by the bridge disaster.

#### *Travel Pattern After the Disaster*

From 6 January 1975, eastern shore residents were forced to choose one of three ways to get to Hobart:

(i) *Ferry*: Originally there were three privately owned passenger ferries (in addition to the two previously mentioned, one other privately owned craft was brought into immediate use) and a Government boat diverted from the Bruny Island run.

(ii) *Punt*: There was an existing vehicular ferry service known as the Risdon punt connecting the approximate area of the Electrolytic Zinc Works (western shore) to East Risdon; this service operated about five kilometres upstream from the Tasman Bridge.

(iii) *'The Long Way Round'*: This involved driving parallel to the Derwent to reach the old bridge upstream at Bridgewater and then driving south to Hobart. The shortest route, via Old Beach Road, was so narrow and in such poor con-



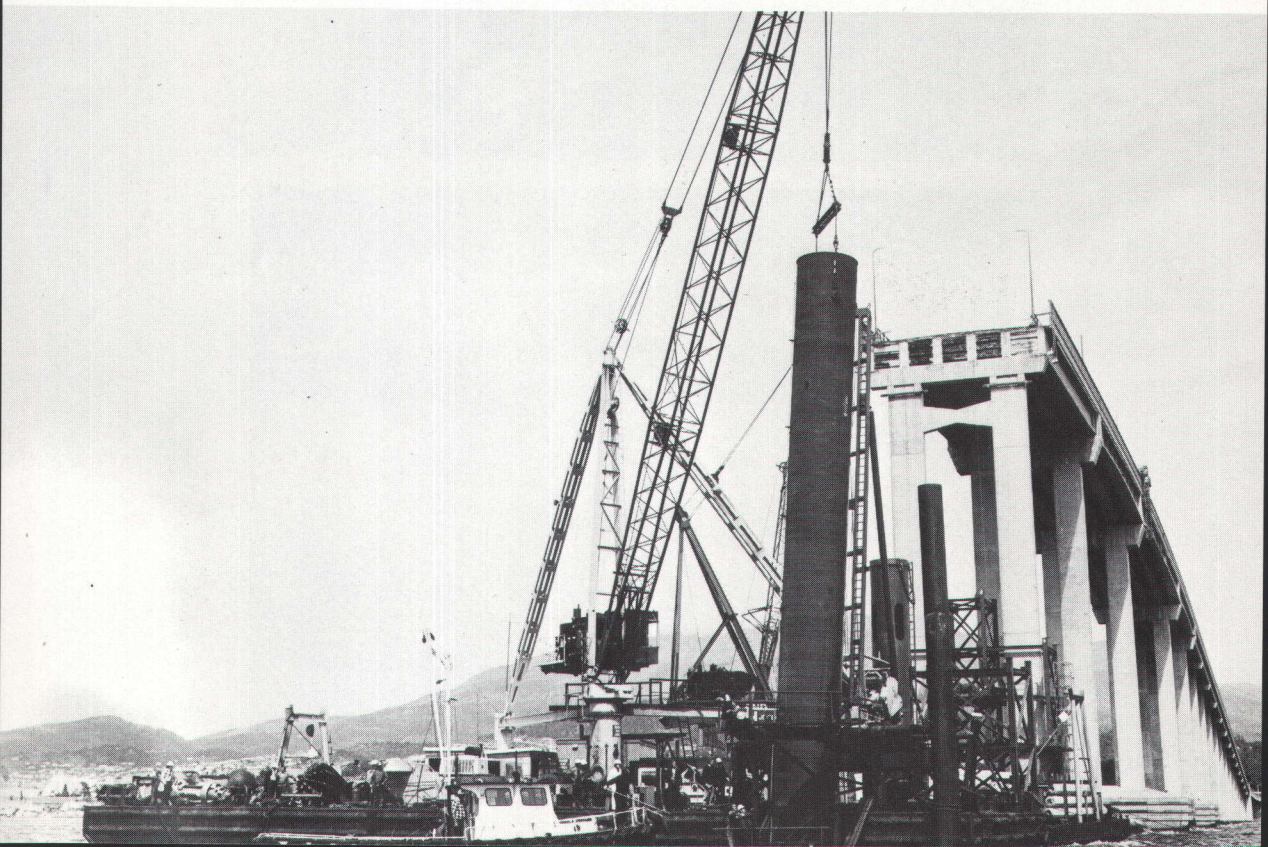


*Tasman Bridge after being hit by the Lake Illawarra (Inset: Western side of the gap)*

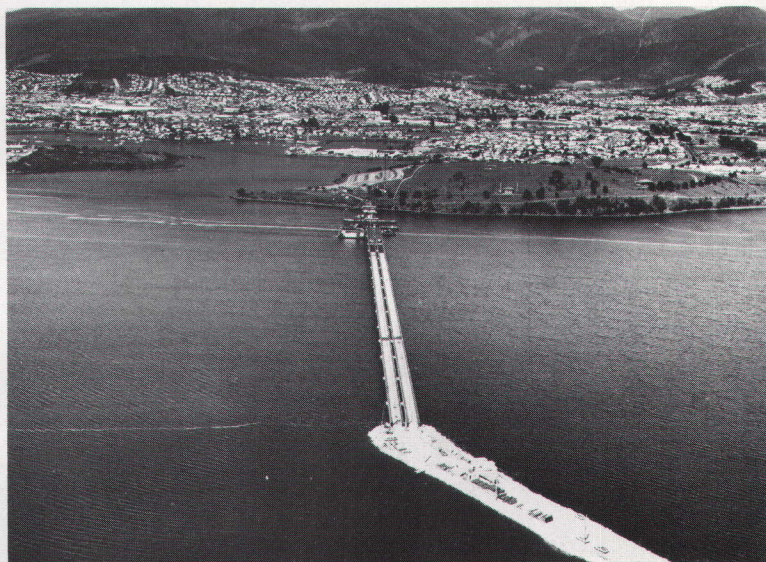
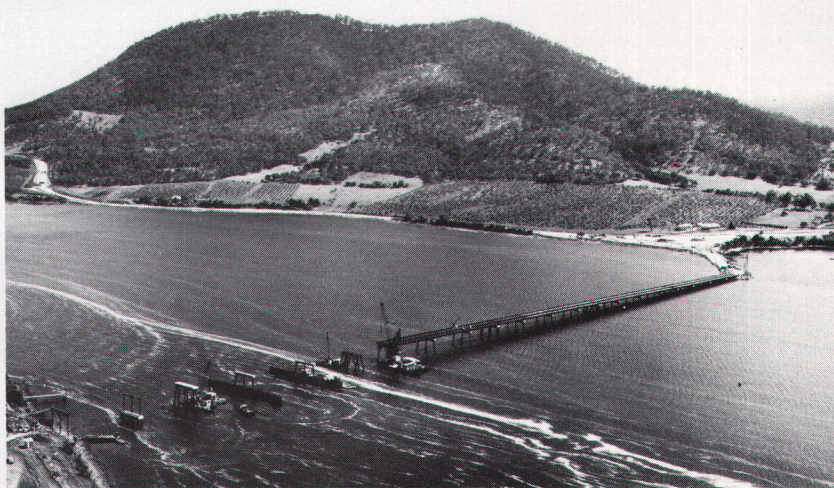
[Dept of Film Production]

*First caisson for new pier 19 is lowered into position*

[Dept of Film Production]







*Sbts of the temporary Bailey bridge across tbe Derwent under construction*

*[Dept of Film Production]*



dition in parts that a one-way tidal flow system had to be introduced (morning go north; evening go south); and in any case it became the centre of a massive reconstruction program, the intention being to upgrade this link to the same standard as the Hobart-Launceston main road. Bellerive-Hobart might take under the hour by this route with a fairly clear run.

Longer routes involved convergence on Brighton, north of the Bridgewater bridge. At off-peak periods, these routes Bellerive-Hobart might take 1.25 hours; and more than 1.5 hours in peak periods.

By mainland standards, these are not long travelling times; but they were being inflicted on people who had previously been able to get to Hobart in 10 or 15 minutes. The difference between old and new travelling times induced a feeling of isolation.

The pattern of average daily travel after the bridge disaster was estimated by the Transport Commission and the Department of Public Works on the basis of special surveys. Details are shown in the following table:

**Derwent River, Hobart 1975:**  
**Estimated Daily Average East-West Crossings**

Particulars	April survey	July survey
Bellerive and Lindisfarne ferry services—Persons ..	13 000	13 000 (a)
Risdon punt—Vehicles .. .. .	450	350
Persons .. .. .	2 400	2 300
'Long way round'—Vehicles .. .. .	3 500	4 500
Persons .. .. .	6 000	7 200
Total—Persons .. .. .	21 400	22 500

(a) Almost 65 per cent of these passengers travelled during the morning and afternoon peak periods.

### Developments Following the Bridge Disaster

#### Ferry Services

In the weeks immediately following closure of the bridge, the ferry service was operated on an ad hoc basis; no timetable was implemented and vessels departed from the terminals when loaded. A regular twenty-four hour service was subsequently established with passenger ferries operating to a set timetable. The fleet as at 30 November 1975 is shown below:

**Ferries Providing a Derwent Service at 30 November 1975**

Ferry	Operator	Passenger capacity
<b>BELLERIVE SERVICE</b>		
Lady Wakehurst .. .. .	Transport Commission (on loan from the N.S.W. State Government)	811
Harry O'May .. .. .	Transport Commission	950
Kosciusko .. .. .		730
Mathew Brady .. .. .		272
James McCabe .. .. .	Sullivan Cove Ferry Co. Pty Ltd	147
Michael Howe (hovercraft) .. .. .		62
Martin Cash .. .. .		320
Cartela .. .. .	Roche Bros	550
Total .. .. .		3 842

Ferries Providing a Derwent Service at 30 November 1975—*continued*

Ferry	Operator	Passenger capacity
LINDISFARNE SERVICE		
Commodore I .. .. .	G. Chatterton	153
O'Hara Booth .. .. .	Carnarvon Cruises	150
Ray Larsson .. .. .	} R. A. & B. J. Larsson	196
Bundecena .. .. .		150
Total .. .. .		649

In addition, two small water taxis provided a limited trans-Derwent service. Army landing craft were used as ferries for emergency services and in their first six months of operation they completed over 6 000 trips across the Derwent. Also, a new Sullivan Cove Ferry Co. Pty Ltd ferry, the *Lawrence Kavanagh*, with a passenger capacity of 328, commenced service on 19 December 1975.

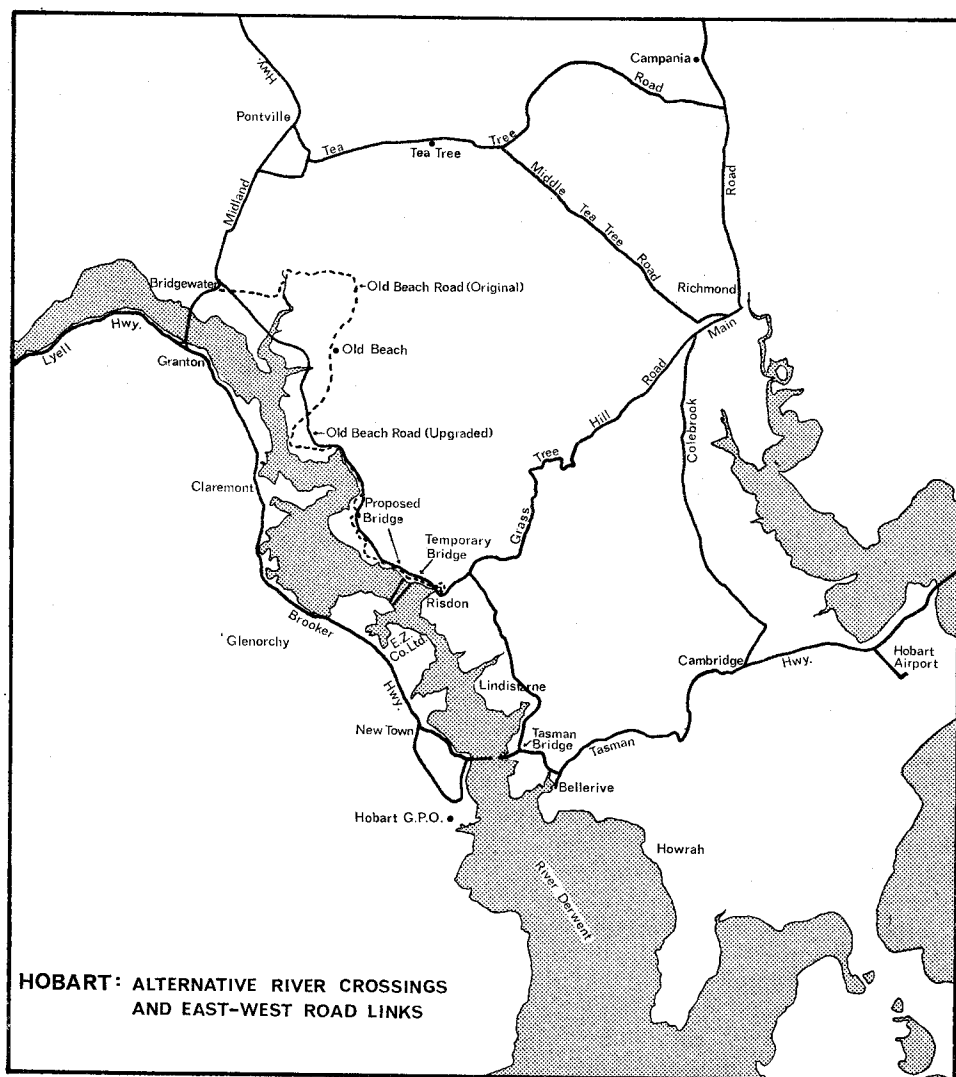
On the western shore, the ferries operated from the new Elizabeth Street Ferry Terminal. The terminal services four pontoon berths and contained waiting areas equipped with seats, toilet facilities, public telephones, a kiosk and an information centre. On the eastern shore, six ferries operated from a new ferry terminal at Kangaroo Bay, four from a terminal at Lindisfarne and two from the old Bellerive wharf. The Kangaroo Bay terminal, the main ferry terminal on the eastern shore, was constructed by the Hydro-Electric Commission and included a free car park with space for 1 000 vehicles, connected by a covered walkway. The Lindisfarne terminal was provided with comfortable shelter, improved road access, terminal walkways and car parking facilities.

The Risdon punt, a vehicular ferry, operated approximately five kilometres upstream from the Tasman Bridge, connecting the Electrolytic Zinc Works on the western shore to East Risdon on the eastern shore. This punt had the capacity to carry only eight average-size cars on each crossing. A new steel-hulled punt was designed to accommodate 18 to 21 average-size cars on each crossing. Berthing facilities for the new Risdon punt were constructed. The old Risdon punt was to be used as a stand-by upon completion of the new punt in December. The road distance involved in using the Risdon punt to travel between Hobart and Bellerive was 19 kilometres. Also, a privately operated punt, the *Tasma*, commenced a vehicular ferry service between Geilston Bay and Self's Point in early August 1975. This punt had the capacity to carry 14 average-size cars or from two to five trucks. It was used to ferry petrol tankers across the river and also for carrying truckloads of ready-mixed concrete to the Tasman Bridge for pouring into pile caissons during bridge reconstruction.

### Roads

*Shortest Route:* As already mentioned, the shortest road route from the eastern shore to Hobart after the bridge disaster was via Old Beach Road which was narrow, winding and included sections that were in an extremely poor condition. Almost immediately after the disaster, a crash program to upgrade Old Beach Road to highway standard between its junctions with the Midland Highway near Bridgewater and Grass Tree Hill Road near Risdon Vale, was implemented. The construction work, which included major re-alignment, was undertaken jointly by the Department of Public Works and the Hydro-Electric Commission. Completed sections of upgraded road were opened to traffic progressively during 1975. The first parts to be upgraded were the stretch in very poor condition that

followed the Derwent River north from Risdon Cove and the section of Grass Tree Hill Road from its junction with Old Beach Road to the East Risdon Road junction. A major new section, which cut off a winding section of the original Old Beach Road at the Bridgewater end, was opened to traffic on 13 November 1975. In September, a contract was let (to Roche Brothers) for the reconstruction of the East Risdon Road from its junction with Grass Tree Hill Road to Golflinks Road, to provide a faster link with Old Beach Road for eastern shore traffic.



*Longer Routes:* During 1975 the airlines adopted the longer route (71 kilometres) via Brighton, Tea Tree Road, the Colebrook Main Road (passing through Richmond) and Cambridge between Hobart Airport and the city for their airport coach service. This was to avoid the traffic congestion encountered along the Old Beach Road route. (The distance involved using the normal Tasman Bridge route had been only 18 kilometres.) A significant volume of other traffic also used the Tea Tree Road/Richmond route to the eastern shore and this route became

vital on several occasions when the Old Beach Road was closed due to landslips. The Tea Tree Road, the Colebrook Main Road and Old Beach Road were classified as 'developmental roads' under the responsibility of the Department of Public Works, following the bridge disaster. The Middle Tea Tree Road, which turns off the Tea Tree Road and connects with the Colebrook Main Road just south of Richmond, shortens the route somewhat but this road was not suitable for heavy vehicles and there were no plans to upgrade it.

The distances between Hobart and Bellerive by the various road routes were as follows: (i) via Bridgewater and Old Beach Road, 49½ kilometres; (ii) via Brighton, Tea Tree Road, Richmond and Cambridge, 74 kilometres; and (iii) via Brighton, Tea Tree Road, Middle Tea Tree Road and Cambridge, 67½ kilometres. The distance from Hobart to Bellerive via the Tasman Bridge had been only 4½ kilometres.

The greatly increased volume of traffic generated by eastern shore residents driving to Hobart via Bridgewater as a result of the bridge disaster placed a severe burden on the capacity of the existing Midland Highway through Claremont. Peak hour travelling times for northern suburbs residents were significantly increased. As a result, the State Government commenced what it termed a 'crash program' to speed up construction of the Northern Outlet Road. It was planned to halve the estimated construction time for the section from Abbotsfield Road to Granton so as to have this completed by soon after mid-1976.

#### *Court of Marine Inquiry*

Three days after the Tasman Bridge disaster it was announced by the federal Minister for Transport that a public court of marine inquiry into the disaster would be set up by the end of the month. Sir John Spicer, Chief Justice of the Australian Industrial Court, was appointed head of the Court of Marine Inquiry which began on 30 January (but was adjourned to 18 February). The Court gave its findings on 30 April 1975 which stated that the master of the *Lake Illawarra*, Captain B. J. Pelc, had caused the loss of the ship by careless navigation. Part of the Court's finding read:

'In our opinion, the effective cause of the casualty was poor seamanship on the part of the master. The abnormal upstream current in the river may have been a contributing cause from the time when the ship had substantially lost steerage way until it hit the Tasman Bridge . . . Poor seamanship on the part of Capt. Pelc consisted primarily in approaching too close to the bridge at too fast a speed before attempting to align the lead lights. It was a combination of those two factors which set off the disastrous chain of events; although the collision could probably have been avoided had the master chosen to abort the exercise of passing under the bridge when he found the vessel overshooting the leads for the second time—to the east. But he then compounded his previous errors of navigation by stopping the engines, which caused the ship to lose steerage way.'

The Court ruled that Capt. Pelc's certificate of competency be suspended for six months from 30 January. Among recommendations included in the Court's 77-page finding were: (i) that the Hobart Marine Board study the question of making pilotage compulsory for passage beneath the bridge of certain classes of vessel, for example, bulk carriers; and (ii) that the Australian National Line consider making it a standing order that the chief officer, or a senior officer with ship-handling qualifications, be on the bridge with the master when a ship is manoeuvring within harbour limits.

Capt. Pelc regained his master's certificate on 29 July but on 26 November 1975, he announced that he had received advice from the Australian National Line that he was being retired 'on medical grounds'. He said that he had earlier intended to go back to sea if allowed but would now endeavour to enjoy his early retirement.

### *Temporary Derwent Crossing*

On 19 January 1975 the Premier announced that it was intended to construct a temporary one-lane pontoon bridge across the Derwent. However, on 24 January he announced that plans for a pontoon bridge had been discarded as there would be some danger involved with such a wide pontoon crossing. Instead, a temporary Bailey-type bridge was to be constructed from Dowsings Point on the western shore to Cleburne Point (and Old Beach Road) on the eastern shore. The piles to carry the bridge would be designed to carry two lanes and, if sufficient Bailey bridge sections became available, two lanes would be built simultaneously. It was estimated that at least one lane of the emergency bridge would be open to traffic within three months. The bridge was to be a joint project between the Defence Department, the Hydro-Electric Commission and the Department of Public Works. Most Bailey bridge sections were to come from Army stocks held in other states while most of the steel pipes required were to be made available from Hydro-Electric Commission stocks.

Early in March it was announced that work on an 183-metre causeway (on the eastern shore) for the temporary Bailey bridge had been virtually completed. However, the construction of the bridge itself took far longer than expected due to the only suitable pile-driving barge being required at the Tasman Bridge site for some time, delays due to strike action and other unforeseen problems. The large derrick barge used for pile driving was moved to Dowsings Point in early June and full scale construction work then commenced. Prior to this only test piles and piles for the inshore piers had been driven.

*Specifications:* The tubular steel piles to support the bridge were of 710 mm and 785 mm diameter and were driven to depths of up to 45 metres below water level. The longest pile was 55 metres in length. The bridge was to be 788 metres long with 23 spans, including a navigation span (the longest) of 42.7 metres. This span, near the western shore, was to provide a minimum clearance of 9 metres for river traffic which includes barges serving the Australian Newsprint Mills Ltd plant at Boyer. Concrete cross-heads placed upon the steel piles were to form the piers upon which the Bailey bridge girders would rest.

The bridge was opened to traffic on 16 December 1975. It had been estimated that the maximum capacity of the bridge with both lanes operating would be of the order of 800 vehicles per hour each way. The bridge was expected to actually handle at least 7 000 vehicle trips per day in each direction. Actual usage in the first half of February 1976 averaged 8 000 trips per 24 hour day in each direction.

### *Restoration of the Tasman Bridge*

Early estimates of the time that would be required to repair the Tasman Bridge varied but these agreed that it would be at least two years—at one stage, the then Premier, Mr Reece, in response to an Opposition estimate, said he would resign from Parliament if contractors told him that repairs would not be carried out in less than four and a half years. An unknown factor was, by how much, wreckage and debris on the river bed would hamper reconstruction work.

*Federal Assistance:* Two days after the disaster, the Premier announced that the Federal Government had undertaken to grant up to \$13 million to the State Government in Tasman Bridge disaster aid. On 25 February, the Federal Treasurer introduced Supply Bills to finance bridge restoration and said that the Australian Government made an undertaking to meet the full cost incurred in repairing the bridge. The aid was to be used not only for bridge repair but also for upgrading the narrow and dilapidated Old Beach eastern shore road link and on improving ferry facilities. However, it was not until over six months after the disaster that the first concrete used in repairing the Tasman Bridge was poured (to strengthen the pile cap of pier 20).

It was first assumed that the *Lake Illawarra* would have to be salvaged before reconstruction could commence. On 21 January 1975, the Australian Government served notice on the Australian National Line to salvage the vessel (the A.N.L. was given six months to remove the wreck). Tenders for the salvage operation were subsequently called on 15 February but on 20 April the Premier, Mr Neilson, said that it would not be necessary to remove the *Lake Illawarra* wreckage from the bottom of the river before the bridge was repaired. Salvage plans were then postponed.

On 28 February the Premier, Mr Reece, announced that the Melbourne-based construction company, John Holland Pty Ltd, had been asked to submit plans for the repair of the Tasman Bridge. He said this was done in order to by-pass the step of calling for tenders and thus save time. Mr Reece said that the engineering consultants to the Department of Public Works, Maunsell and Partners (who had originally designed the bridge) had produced engineering proposals for the bridge's repair and these had been shown to John Holland Pty Ltd. He said that as long as John Holland Pty Ltd put up a sound proposal, they would be the ones to undertake the repair job.

*Joint Tasman Bridge Restoration Commission:* The Premier and the Prime Minister signed a special agreement on 7 March which established the Joint Tasman Bridge Restoration Commission to oversee reconstruction and salvage. Subsequently, Sir Allan Knight, the Tasmanian Hydro-Electric Commissioner, was appointed Chief Commissioner of the three-man Commission. On 3 June 1975, plans for reconstruction of the Tasman Bridge were announced by Sir Allan Knight. He said that the plan adopted by-passed the wreck of the *Lake Illawarra*, except for some steel plating projecting from her bow which would be removed. It was considered that this plan could be completed more quickly and with less risk than other alternatives, taking into account strength and safety requirements. The first phase of reconstruction—clearance of the debris—was to start immediately. The time required for rebuilding was estimated as being 2½ years.

Three designs that were evaluated for restoration of the bridge and rejected were:

- (i) A single steel truss-type span, 128 metres long, between piers 17 and 20 was eliminated because of problems in strengthening these piers to take the significantly increased wind loads and live loads of the longer span, and because cost and time for reconstruction compared unfavourably with alternatives.
- (ii) The original design, of three equal pre-stressed concrete spans on reinstated piers 18 and 19 was eliminated because of difficulties anticipated in pile driving at pier 18 and the uncertainties of debris distribution there. It was also significant that the depth of the river is greatest there making underwater operations hazardous and slow.

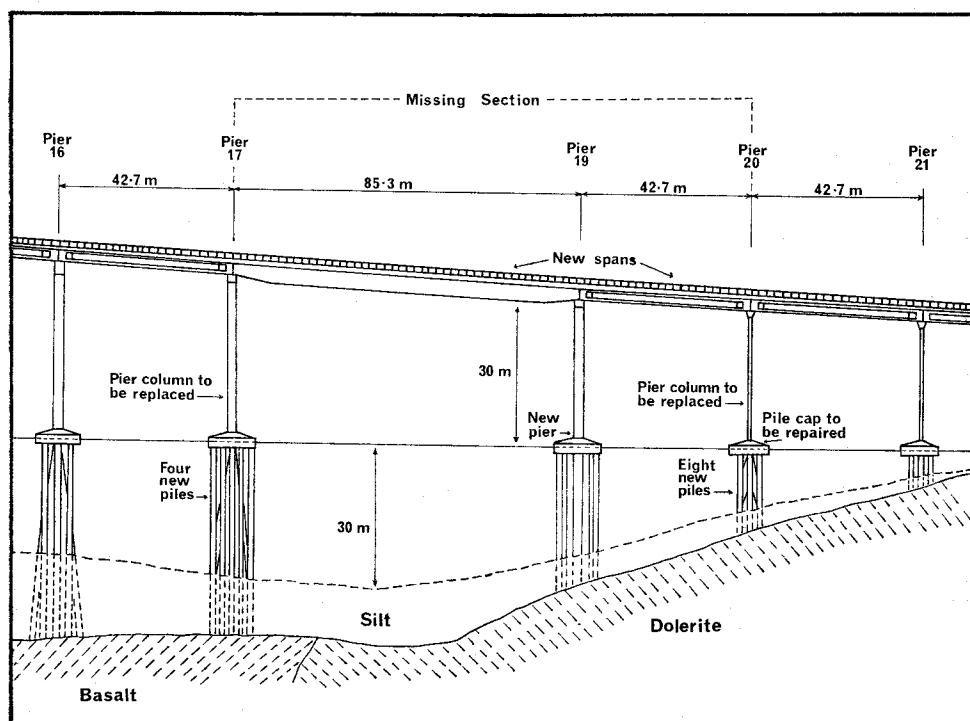
- (iii) A proposal to bridge the gap using a new pier in the centre supporting equal spans appeared attractive until probing of the river bed revealed a surprising amount of debris and accurate calculations showed that two piles would need to be driven in sites obscured by the wreck. The amount of underwater work assessed as necessary and uncertainties associated with possible movement of the wreck led to this proposal being dropped.

*Reconstruction Plan Adopted:* On all counts it was eventually decided that the most practicable course would be to construct a new pier to replace pier 19, bridge the gap to pier 20 with a pre-stressed concrete span as used in the original design; and bridge the gap to pier 17 with a steel box girder span of 85 metres.

It was therefore decided to:

- (i) Repair and strengthen pier 17;
- (ii) Abandon the original pier 18;
- (iii) Reconstruct a new and stronger pier 19;
- (iv) Repair pier 20;
- (v) Bridge between piers 17 and 19 with a single steel box girder; and
- (vi) Bridge between piers 19 and 20 with a pre-stressed concrete span of 43 metres similar to the original design.

#### Tasman Bridge Restoration



This program had the advantage of reducing the difficult and dangerous underwater operations to a minimum. The plan involved the pier columns of piers 17 and 20 being replaced. This required construction of temporary



steel towers around the columns to support the existing spans while the columns were demolished and replaced. Four new piles of 2.98 metres diameter were to be added to number 17 pile group for strengthening and eight similar ones to form the new number 19 pile group. All were to be vertical piles with lower ends fastened to the bedrock. At pier 20, temporary piles were to be driven to support the steel towers while repairs to the pile cap took place.

The concrete beams for span 19 to 20 were to be cast on the bridge deck of the eastern viaduct and the steel box girders for span 17 to 19 constructed on the western viaduct. From there they were to be hoisted out to pier 19 using a launching truss and floating crane. The completion and surfacing of the bridge deck would then proceed, followed by restoration of services such as lighting and traffic control signals to return the bridge to operational use.

Reconstruction work commenced after Sir Allan Knight's announcement but work on constructing a temporary steel tower on pier 17 came to a halt at the beginning of September due to a strike by the Amalgamated Metal Workers' Union. This strike had then been maintained for nine weeks and, although it ended one week later, was said to have considerably delayed bridge reconstruction. A one-week strike by welders working on pier 17 further delayed reconstruction in November.

*Bridge Widening:* In June it was announced that the Tasman Bridge would be widened to carry five lanes of traffic, as recommended in the report of a joint advisory committee which had advised on the location and type of bridge for a second Derwent crossing, and related matters. The widening scheme was to involve removal of the original footways and addition of new footways outside the then existing edges of the bridge, using a cantilever construction. The announcement said that an additional \$3m in bridge reconstruction aid had been recommended to cover the widening. The work was to be carried out concurrently with reconstruction of the damaged section of the bridge. The additional lane would allow a tidal traffic system with three lanes in the major flow direction and two lanes for minor flow traffic. In November it was announced by the Joint Tasman Bridge Restoration Commission that Maunsell and Partners had been appointed consulting engineers for widening the bridge. The *Tasman Bridge Restoration Act (No. 2) 1975*, passed in November, approved and gave effect to an agreement between the Australian and Tasmanian Governments with respect to widening the Tasman Bridge. In that agreement, signed by the Prime Minister and the Tasmanian Premier on 7 August, it was stated that the Australian Government would meet the cost of the structural modifications necessary to the bridge in order to accommodate five lanes of traffic.

#### *Proposals for a Second Derwent River Crossing*

On 23 January 1975 the Deputy Prime Minister (Dr Cairns) and the Tasmanian Premier (Mr Reece) in a joint statement announced plans for a second permanent Derwent crossing. The announcement stated that the Australian and Tasmanian Governments had agreed to establish a joint engineering force to immediately begin investigations with a view to recommending the most appropriate type of, and location for, a second permanent bridge to Hobart's eastern shore. The then Federal Treasurer, Dr Cairns, said he saw no financial barriers to the proposal. It was suggested that a second bridge could be incorporated in the Federal Government's national highways program as an extension of the Midland Highway. The statement said that the construction of a second bridge would be pursued as soon as appropriate financial arrangements, independent of the question of repairs to the damaged Tasman Bridge, could be made.

*Formation of Advisory Committee:* Early in March the Australian and Tasmanian Governments established a 'Joint Expert Advisory Committee' to advise on the location and type of the second bridge to be constructed over the Derwent River at Hobart, on the road connections which should be constructed or developed and on other related matters. The Committee comprised four Australian Government representatives and four Tasmanian Government representatives, including the Director of the Department of Public Works, Mr G. E. C. McKercher and the Hydro-Electric Commissioner, Sir Allan Knight. The Committee was to consider such factors as speed of construction of the bridge and the associated roadworks, cost, the type of bridge most suitable, land use and transportation strategies, and social and environmental impacts. Alternative sites between Dowsings Point and Macquarie Point were to be examined and the Committee was requested to report by 31 May 1975. Following the bridge disaster, the Department of Public Works had established a 'Study Team' to consider the need, location and type of a second crossing and this Study Team was to be consulted by the Joint Expert Advisory Committee. The Study Team had available to it a number of Department of Public Works studies of possible sites for a second bridge which had been undertaken in recent years, as it had been known for some years that the Tasman Bridge traffic volume would reach maximum capacity, at least during peak periods, by the late 1970s.

The Joint Expert Advisory Committee duly presented its report to the two governments in May. When the report was released to the public on 20 June, the Prime Minister and Tasmanian Premier issued a joint statement in which they made it clear that they favoured the Committee's proposed Dowsings Point bridge plan. It was also announced that a new joint committee to work out the fine detail for the new Derwent bridge, as recommended by the Committee, would be established. The Committee had estimated that work on the new bridge could commence early in 1977 if the new joint committee was formed immediately and that construction time would be three to four years.

*Need for a Second Crossing:* The Joint Expert Advisory Committee considered that Hobart would not be well served by significant decentralisation of activity. It expected that the eastern shore area would remain as a predominantly residential area with only a few services available locally and most people crossing the river to their jobs. On this basis, the Committee estimated that the demand for vehicle trips across the Derwent was likely to be at least 76 000 vehicle trips per day (sum of east-west plus west-east trips) by 1990 (compared to 43 000 vehicle trips per day across the Tasman Bridge in 1974). The anticipated growth in demand for travel across the river was considered to alone justify a second crossing but, in addition, a second bridge would provide more direct routes between some parts of Hobart. In particular, traffic between the eastern shore and western shore northern suburbs could be routed away from the city centre. Ignoring any additional traffic that might result from increased accessibility to the Old Beach area, it was estimated that, by 1990, a Dowsings Point crossing would be handling 18 000 vehicle trips daily and that a further 9 000 should be added to this estimate if it was decided to route the National (Midland) Highway via Dowsings Point. Another factor was the need for provision of back-up to be available in the event of a further collision involving the Tasman Bridge. The risk of the latter was considered to be low but could not be entirely dismissed and this possibility added considerable weight to arguments supporting the need for an alternative crossing.

*Choice of a Site:* The Committee carefully examined 18 potential crossing sites. It was decided that navigation requirements and foundation conditions for crossings downstream from Dowsings Point would make navigation spans of about 400 metres wide and providing a vertical clearance of at least 47 metres necessary.

As a result, such crossings would cost at least twice as much to construct as crossings at, or upstream from, Dowsings Point. Tunnel proposals were also considered but rejected because of very high cost. In respect of sites at Bedlam Walls, it was considered that, apart from the much higher cost compared with more northerly alternatives, such a crossing would not provide the best link for a regional transportation network. Of the lower cost crossings at or north of Dowsings Point, the site finally recommended was 250 metres north of Dowsings Point where foundation conditions are good and the risk of collision by large ships serving the Electrolytic Zinc Company's works is low. Of the viable alternatives, this site was considered to be the nearest to the substantial commuter demand of Clarence and could thus function as a link relieving excess demand on the Tasman Bridge. In addition, it was considered to be within an acceptable distance of the Tasman Bridge to function as back-up in the event of a future collision. It was stated that a crossing at Dowsings Point could be conveniently linked with the upgraded Old Beach Road and with the Brooker Highway, and that it could also serve the National Highway if a link with the Midland Highway north of Pontville was provided. It was also considered that a bridge at this location would be the most acceptable from an environmental point of view.

*Specifications of the Proposed Bridge:* The design recommended for the proposed bridge was a concrete box type of construction which would have a similar appearance to the Tasman Bridge except that it would be lower and would have no 'hump'. Its length would be 1 020 metres between shore abutments with a 75 metres wide navigation span and 65-metre flanking spans. The minimum vertical clearance for the navigation span would be 15.2 metres (the Hobart Marine Board had recommended a 27.4-metre minimum clearance but the Committee opted for the lower alternative because this was considered to be adequate for current river traffic, it would be cheaper and it would be less visually intrusive). The depth of water at the navigation channel would be 14 metres, silt cover at the site reaches a thickness of 45 metres and the deepest founding level to the sandstone bedrock at the site is 50-55 metres below water level. The initial eastern approach suggested was a new road connection from the junction of Grass Tree Hill Road and East Risdon Road. This would pass above Old Beach Road but include a simple junction with it. The western shore approach would cross Army land to meet the existing Goodwood Road and follow this to its junction with the Brooker Highway. Other roadworks costing \$18m (1975 prices) might be required in the long term.

*Joint Expert Advisory Committee Recommendations:* The Committee's report made the following nine specific recommendations:

- (i) There should be a second crossing of the Derwent River at Hobart located just north of a line between Dowsings Point and Cleburne Point. It should be constructed as a four-lane bridge designed in accordance with the revised loadings for highway bridges proposed by the National Association of Australian State Road Authorities. The estimated cost at 1975 prices is about \$21m including the immediately necessary associated roadworks.
- (ii) The Tasman Bridge should be widened during the period of its restoration to provide for five traffic lanes. The estimated cost is some \$3m.
- (iii) Detailed investigation and design of the Dowsings Point crossing and approaches should proceed immediately so that construction could commence any time from 1977.

- (iv) Detailed investigations should include further examination of the tentative navigation requirements as they affect bridge design and cost. The likelihood of future industrial development upstream of the site and its effects should be specifically considered.
- (v) The degree to which the piers of the second bridge should be protected against collision should be studied as soon as possible.
- (vi) A comprehensive study examining the social, physical and environmental impact of necessary changes to the metropolitan road system should be undertaken to determine the optimum location and design of the roadworks.
- (vii) Early consideration should be given to determining the National (Highway) Route into Hobart so that the immediate planning associated with the second crossing can recognise its location.
- (viii) The preparation of a development plan for the Hobart region and the machinery for its implementation should be encouraged.
- (ix) Immediate interim action should be taken to control development in those areas affected by the proposed crossing.

## Chapter 12

### PRIVATE FINANCE

#### INSURANCE

##### General

##### *Definitions*

The following data on insurance are divided into life insurance and insurance other than life, i.e. fire, marine and general insurance. No distinction is made between insurance and assurance, the former term being used in all contexts.

##### *Legislation*

Section 51 of the Commonwealth Constitution confers the necessary powers on the Australian Parliament to legislate with respect to 'insurance other than state insurance; also state insurance extending beyond the limits of the state concerned'. The principal Australian Government legislation affecting current insurance business is as follows:

*Life Insurance Act 1945-1973:* This Act provides for uniform control throughout Australia of life insurance business other than business transacted by State Government Insurance Offices, friendly societies and trade unions providing benefits for members or dependants. Also excluded is business in relation to superannuation benefits provided wholly by an organisation established by employers, employees or both.

Under the Act each company must maintain at least one office in each State or Territory in which it conducts life insurance business. Companies are also required to set up statutory funds in respect of their life insurance business in Australia and all amounts received in respect of this business must be paid to, and form part of, the assets of these funds. The assets of the statutory funds can only be used to meet liabilities or expenses relating to the life insurance business and, in certain circumstances, the payment of dividends to shareholders.

*Insurance Act 1973:* This Act restricts the right to carry on insurance business to authorised companies and Lloyd's underwriters and makes arrangements aimed at ensuring that these are at all times financially sound. The Act is concerned with controlling the operations of general insurance companies and requires all companies writing general insurance to be authorised.

Insurance business carried on by the Australian Government or a state government or by a number of named government or semi-government authorities is exempt. The Act does not extend to life insurance business, registered medical or hospital benefits organisations and certain other bodies.

##### **Life Insurance**

Since 1947 returns lodged under the *Life Insurance Act 1945-1973* have been used to compile life insurance statistics. In Tasmania, the Government Insurance Office does not transact life insurance business so the tables that follow refer to the operations of enterprises exclusively in the private sector. The transactions in the next table are concerned with Tasmania as the State of issue of the policies, not necessarily as the State of risk.

## Life Insurance Transactions (Excluding Annuities)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
ORDINARY BUSINESS					
New policies issued—					
Number .. .. .	17 052	17 952	19 016	18 710	17 179
Sum insured .. .. \$'000	93 895	107 365	128 738	143 697	158 395
Annual premiums .. .. \$'000	2 201	2 430	2 914	2 953	2 794
Policies discontinued or reduced—					
Number .. .. .	11 145	11 354	12 429	12 432	10 440
Sum insured .. .. \$'000	38 521	42 271	49 543	52 647	59 557
Annual premiums .. .. \$'000	918	999	1 153	1 258	1 327
INDUSTRIAL BUSINESS (a)					
New policies issued—					
Number .. .. .	3 536	3 642	3 709	3 648	3 127
Sum insured .. .. \$'000	3 955	4 730	5 470	6 694	6 577
Annual premiums .. .. \$'000	153	167	185	213	204
Policies discontinued or reduced—					
Number .. .. .	4 423	4 295	5 091	6 124	4 490
Sum insured .. .. \$'000	2 688	2 502	3 465	3 983	4 349
Annual premiums .. .. \$'000	110	99	129	138	142
SUPERANNUATION BUSINESS					
New policies issued—					
Number .. .. .	1 848	1 925	1 903	1 785	2 220
Sum insured .. .. \$'000	26 726	35 400	38 011	61 799	73 880
Annual premiums .. .. \$'000	813	1 069	1 205	1 162	2 150
Policies discontinued or reduced—					
Number .. .. .	2 226	2 105	2 074	2 900	1 436
Sum insured .. .. \$'000	14 496	18 131	17 080	27 464	28 339
Annual premiums .. .. \$'000	412	562	515	653	718
TOTAL BUSINESS					
New policies issued—					
Number .. .. .	22 436	23 519	24 628	24 143	22 526
Sum insured .. .. \$'000	124 576	147 494	172 220	212 189	238 853
Annual premiums .. .. \$'000	3 167	3 666	4 305	4 330	5 146
Policies discontinued or reduced—					
Number .. .. .	17 794	17 754	19 594	21 456	16 366
Sum insured .. .. \$'000	55 705	62 904	70 088	84 095	92 245
Annual premiums .. .. \$'000	1 441	1 659	1 797	2 051	2 189
NEW LOANS PAID OVER (EXCLUDING ADVANCES OF PREMIUMS)					
On mortgage of real estate .. \$'000	4 737	3 345	2 293	2 779	2 503
On companies' policies .. .. \$'000	1 764	2 004	2 211	1 606	1 634
On other securities .. .. \$'000	33	60	52	45	278
Total .. .. . \$'000	6 534	5 408	4 555	4 428	4 418

(a) Industrial business refers, in the main, to policies on which the premiums are collected as regular instalments by agents on commission.

### Fire, Marine and General Insurance

Information for insurance, other than life, is compiled from returns provided by insurance companies transacting fire, marine and general insurance business in Tasmania (including the Tasmanian Government Insurance Office). Statistics that follow relate to financial years of companies ending within the period shown.

#### Definitions

Premiums represent the full amount receivable in respect of policies issued and renewed in the year, less returns, rebates and bonuses paid or credited to policy-holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year. When business is increasing, as shown in the following statistics, premiums receivable are greater than 'earned premium income' appropriate to the year. The converse applies when business is declining.

Claims include payments made during the year *plus* estimated amount of outstanding claims at end of year *less* estimated amount of outstanding claims at beginning of year.

Contributions to fire brigades, commission and agents' charges, and expenses of management are those amounts actually paid during the year.

Taxation represents payments made during the year, including income tax, pay-roll tax, licence fees, stamp duty (where paid by the company), etc. Income tax paid during the year is based on the income of earlier years.

The following table should not be construed as a profit and loss statement; selected revenue and expenditure items only have been used. In cases where the business is underwritten in one state and the risk situated in another, the business is included in the state of issue.

Fire, Marine and General Insurance  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Premiums (less returns, rebates and bonuses) .. .. .	20 813	23 248	27 952	30 781	34 909
Interest, dividends, rents .. .. .	457	487	639	660	771
Total (selected revenue items) ..	21 270	23 735	28 591	31 441	35 680
Claims (less amounts recoverable) ..	12 285	13 214	15 279	18 241	23 490
Contributions to fire brigades .. ..	521	583	(a)815	979	1 069
Commission and agents' charges .. ..	2 118	2 388	2 696	2 999	3 330
Expenses of management .. .. .	4 407	4 942	5 856	6 364	6 875
Taxation .. .. .	424	626	738	780	1 041
Total (selected expenditure items) ..	19 757	21 753	25 384	29 362	35 804

(a) Contribution formula changed by law.

#### Types of Insurance

The next table shows premiums and claims according to the class of insurance business transacted in 1973-1974. ('Premiums' and 'Claims' have been compiled in accordance with the definitions introducing the section.)



**Fire, Marine and General Insurance**  
**Premiums and Claims for Each Type of Insurance, 1973-74**  
 (\$'000)

Class of business	Premiums	Claims	Class of business	Premiums	Claims
Fire .. .. .	4 185	1 300	Public risk, third party	636	264
Householders' comprehensive .. .. .	3 494	1 440	General property .. .. .	159	62
Sprinkler leakage .. .. .	19	3	Plate glass .. .. .	137	91
Loss of profits .. .. .	845	108	Boiler .. .. .	153	60
Fruit crop .. .. .	40	16	Livestock .. .. .	67	26
Marine .. .. .	1 781	3 231	Burglary .. .. .	340	172
Motor vehicles (incl. motor cycles) .. .. .	9 612	6 392	Guarantee .. .. .	32	1
Compulsory third party (road accidents) .. .. .	2 322	3 463	'Pluvius' .. .. .	11	4
Workers' compensation .. .. .	8 799	5 905	Aviation .. .. .	38	22
Personal accident .. .. .	1 370	516	All risks .. .. .	272	125
Contractors' all risks .. .. .	79	26	Television .. .. .	1	..
			Other (a) .. .. .	518	263
			Total .. .. .	34 909	23 490

(a) Includes pay-cheque, engineering breakdown and other contingencies insurance.

**Ratio of Claims to Gross Premiums:** The following table shows the ratio of claims to premiums for the more important classes of business over a five-year period:

**Fire, Marine and General Insurance**  
**Ratio of Claims to Premiums (a)**  
 (Per Cent)

Class of business	1969-70	1970-71	1971-72	1972-73	1973-74
Fire .. .. .	46.0	45.8	31.5	39.6	31.1
Householders' comprehensive .. .. .	30.0	33.8	33.6	39.8	41.2
Loss of profits .. .. .	81.3	(b) 8.4	39.6	47.0	12.8
Marine .. .. .	25.0	43.3	55.7	51.4	181.4
Motor vehicles (including motor cycles) .. .. .	67.1	64.0	62.8	67.5	66.5
Compulsory third party (road accidents) .. .. .	109.2	116.4	r 114.4	117.8	149.1
Workers' compensation .. .. .	62.4	59.2	55.6	64.1	67.1
Personal accident .. .. .	41.0	39.8	35.0	38.3	37.7
Public risk, third party .. .. .	40.3	29.0	25.7	27.6	41.5
Plate glass .. .. .	64.5	72.3	65.8	68.3	66.4
Burglary .. .. .	49.2	54.9	52.4	43.4	50.6
All classes .. .. .	59.0	56.8	r 54.7	59.3	67.3

(a) See beginning of section for definition of claims and premiums.

(b) The low ratio for 1970-71 is due to over-estimation of claims outstanding at the end of 1969-70.

## BANKING AND EXCHANGE RATES

### Types of Banks

#### General

Banks in Tasmania can be classified by ownership as follows: (i) Government—The Reserve Bank of Australia, the Commonwealth Development Bank of Australia, the Commonwealth Trading Bank of Australia and the Commonwealth Savings Bank; (ii) Private—the private trading banks and the private savings banks; and (iii) Trustee—The Savings Bank of Tasmania (previously the Hobart Savings Bank) and the Launceston Bank for Savings. The Agricultural Bank is not a bank for the purpose of these statistics.

For statistical purposes such a classification is not helpful since banks, both government and private, may be engaged in the same type of activity. Hence, the classification in use is one which groups banks according to their type of activity, not according to their ownership. The major banking statistics for the State are presented in two distinct series under the headings 'Trading Banks' and 'Savings Banks'.

### *Trading Banks*

The following seven institutions in Tasmania are classified, for statistical purposes, as 'trading banks': Commonwealth Trading Bank of Australia; Australia and New Zealand Banking Group; Bank of New South Wales; Commercial Bank of Australia Ltd; Commercial Banking Company of Sydney Ltd; National Bank of Australasia Ltd; and The Bank of Adelaide.

### *Savings Banks*

In the 1950s, only three savings banks operated branches in Tasmania: Hobart Savings Bank (now The Savings Bank of Tasmania), Launceston Bank for Savings (both trustee savings banks) and the Commonwealth Savings Bank. The trustee savings banks date from early colonial days, the Launceston Bank opening in 1835, and the Hobart Bank in 1845. In recent years, private trading banks have opened savings bank subsidiaries in the State, the current list of such banks being: Australia and New Zealand Savings Bank Ltd, Bank of Adelaide Savings Bank Ltd, Bank of New South Wales Savings Bank Ltd, Commercial Savings Bank of Australia Ltd, C.B.C. Savings Bank Ltd and the National Bank Savings Bank Ltd.

Savings banks also offer cheque facilities to customers; however, for statistical purposes their cheque operations are included in 'savings banks statistics'.

## **Banking Legislation**

Under Section 51 of the Commonwealth Constitution, the Australian Parliament has power to legislate with respect to 'banking, other than state banking; also state banking extending beyond the limits of the state concerned, the incorporation of banks, and the issue of paper money'. The principal Australian Government Acts at present in force relating to banking are:

### *The Reserve Bank Act 1959-73*

Provision for the constitution and management of the Reserve Bank of Australia and the management of the Australian note issue is covered by this Act. (Central banking functions had previously been vested in the Commonwealth Bank of Australia.)

### *The Banking Act 1959-1974*

Objectives of the Act are: (i) to provide a uniform legal framework throughout Australia for regulating the banking system; (ii) to safeguard depositors of the banks from loss; (iii) to provide for the co-ordination of banking policy under the direction of the Reserve Bank; (iv) to control the volume of credit in circulation and bank interest rates; and (v) to mobilise and to provide machinery for the control of foreign exchange and the gold resources of the Australian economy.

### *The Commonwealth Banks Act 1959-1974*

This Act created the Commonwealth Banking Corporation as the controlling body for the newly-constituted Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia and Commonwealth Development Bank of

Australia. The Corporation and its constituent banks are subject to the same banking controls as are the private trading banks. (The Commonwealth Bank, established in 1911, had performed a number of diverse roles, e.g. as a trading bank, a savings bank and a central bank. The effect of the legislation was to isolate the individual functions and to create a special organisation for each.)

### Transactions of Trading Banks

The accompanying table summarises the principal statistics relating to all trading banks in Tasmania for a five-year period. The following definitions apply:

- (i) Deposits—a bank liabilities item. The figure is the average, for the year, of *balances* read at weekly intervals.
- (ii) Loans, advances and bills discounted, etc.—a bank assets item. The figure is the average, for the year, of *balances* read at weekly intervals.
- (iii) Debits to customers' accounts—mainly the total of all cheques drawn by customers during a given period. The figure is the average, for the year, of such weekly entries.

#### Transactions: All Trading Banks (Including Commonwealth Trading Bank)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
NUMBER					
Branches open (a) .. .. .	107	107	104	103	103
WEEKLY AVERAGES (\$'000)					
Deposits—					
Australian and state governments ..	1 685	6 465	1 210	3 029	3 573
Other—					
Fixed .. .. .	51 444	50 525	54 940	64 743	93 961
Current—Bearing interest .. .. .	8 094	6 816	7 273	8 915	10 162
Not bearing interest .. .. .	70 277	69 782	71 676	82 454	99 343
Total .. .. .	131 501	133 587	135 099	159 141	207 040
Loans, advances and bills discounted (b) ..	77 603	86 976	88 098	99 192	121 077
Debits to customers' accounts (c) ..	61 173	64 177	69 970	85 291	103 041
DEBITS TO CUSTOMERS' ACCOUNTS (c): WEEKLY AVERAGES \$'000					
July .. .. .	61 901	66 938	66 582	82 465	104 799
August .. .. .	56 515	60 901	69 053	75 412	90 398
September .. .. .	55 266	58 254	65 259	73 670	93 145
October .. .. .	56 313	60 345	66 151	81 079	104 710
November .. .. .	60 616	64 483	71 738	82 304	102 197
December .. .. .	69 105	69 519	74 431	92 456	114 328
January .. .. .	47 780	53 020	60 180	73 132	88 608
February .. .. .	59 320	61 912	67 406	81 262	103 674
March .. .. .	63 412	66 385	72 446	90 043	104 276
April .. .. .	63 015	65 411	68 674	97 751	111 611
May .. .. .	75 118	70 679	78 518	103 184	110 055
June .. .. .	64 266	69 777	76 504	95 639	113 295
Weekly average for year .. .. .	61 173	64 177	69 970	85 291	103 041

(a) At end of year.

(b) Excludes loans to authorised dealers in the short-term money market.

(c) Excludes debits to Australian and state government accounts at Hobart branches. In addition to trading bank transactions, those of the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank are included in this item.

The next table gives a classification of trading bank advances outstanding within Tasmania by type of borrower resident in Australia:

Trading Banks: Classification of Advances Outstanding Within Tasmania to Borrowers Resident Within Australia  
(\$'000)

Type of advance	At second Wednesday in July			
	1971	1972	1973	1974
<b>BUSINESS ADVANCES BY MAIN INDUSTRY OF BORROWER</b>				
Agriculture, grazing and dairying—				
Mainly—Sheep grazing .. .. .	8 335	7 791	5 297	5 548
Wheat growing .. .. .	41	8	6	34
Dairying and pig raising .. .. .	4 580	4 787	6 204	6 937
Other .. .. .	8 169	8 982	9 732	10 795
Total .. .. .	21 125	21 568	21 239	23 314
Manufacturing .. .. .	20 851	21 983	23 642	30 846
Transport, storage and communication .. .. .	1 754	2 662	3 029	3 023
Finance—				
Building and housing societies .. .. .	250	199	697	468
Pastoral and finance companies .. .. .	1 864	285	5	1 211
Hire purchase and other finance companies .. .. .	470	512	483	1 041
Other .. .. .	726	515	1 147	1 248
Total .. .. .	3 310	1 511	2 332	3 968
Retail and wholesale trade .. .. .	15 006	15 673	17 600	22 608
Building and construction .. .. .	2 414	2 821	3 809	4 203
Other business .. .. .	9 754	13 359	14 288	22 095
Unclassified .. .. .	504	741	559	861
Total business advances .. .. .	74 718	80 318	86 498	110 919
<b>ADVANCES TO PUBLIC AUTHORITIES</b>				
Public authorities (excl. Australian and State governments) .. .. .	315	127	92	537
<b>PERSONAL ADVANCES BY PURPOSE OF ADVANCE</b>				
Building or purchasing own home (individuals) .. .. .	4 424	4 961	6 379	8 266
All other .. .. .	8 243	10 042	17 461	23 643
Total personal advances .. .. .	12 667	15 003	23 840	31 909
<b>ADVANCES TO NON-PROFIT ORGANISATIONS</b>				
Non-profit organisations .. .. .	1 002	892	1 080	1 410
<b>TOTAL ADVANCES TO RESIDENT BORROWERS</b>				
Total advances to resident borrowers .. .. .	88 722	96 340	111 510	144 776

**Interest Rates and Security Yields**

The next table shows the interest rates available on fixed deposits, the interest yield from treasury notes and the yield from government securities:

**Interest Rates and Security Yields**  
(Per Cent Per Annum)

Particulars	Rate		
	June 1972	June 1973	June 1974
Trading banks (maximum rate)—			
Fixed deposits (less than \$50 000)—			
3 months and less than 12 months ..	4.30	4.30	6.75
12 months and less than 2 years ..	4.50	4.50	7.50
2 years and less than 4 years ..	5.00	5.00	7.50
4 years ..	5.50	5.50	7.50
Fixed deposits (\$50 000 and over)—			
30 days to 4 years ..	(a)6.50	(a)6.50	(a)8.00
Australian Government securities yield—			
Non-rebateable bonds— 2 years ..	5.05	6.04	10.80
10 years ..	5.85	6.72	9.52
20 years ..	5.99	6.99	9.49
Treasury notes (issue yield)—			
13 week notes .. ..	4.50	4.91	10.75
26 week notes .. ..	4.66	5.10	10.76

(a) Subject to this maximum, actual rates are a matter for negotiation between banks and their customers.

**Savings Banks**

The following table summarises the principal statistics relating to savings banks in Tasmania. Deposits are compiled on a basis different from that used in the case of trading banks. 'Deposits lodged' is the total inflow of deposits during the year, and 'depositors' balances' is a single liability reading taken at the end of the year.

The number of operative accounts excludes school bank accounts and small inoperative accounts. The other items in the table relating to depositors' balances etc., relate to all accounts including school bank accounts and small inoperative accounts.

**All Savings Banks**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	no.	no.	no.	no.	no.
Branches open (a) .. ..	152	153	151	155	155
Operative accounts (a) .. ..	465 888	485 629	506 642	529 359	560 744
	\$'000	\$'000	\$'000	\$'000	\$'000
Deposits lodged .. ..	244 416	285 190	333 667	419 885	542 651
Interest added .. ..	7 087	7 625	9 406	10 469	13 371
Excess of deposits over withdrawals ..	2 660	10 247	15 787	35 660	25 677
Depositors' balances (a) .. ..	199 790	217 663	242 856	288 986	328 029
	\$	\$	\$	\$	\$
Per head of population—					
Depositors' balances (a) .. ..	515	558	619	730	819

(a) At end of year.

The next table gives details of housing finance transactions by savings banks in Tasmania. Figures for this activity are not available for years prior to 1969-70.

**Savings Banks: Housing Finance Transactions**

Period	Loans approved to individuals for—						Cancellation of loans previously approved to individuals for housing (a)	
	Dwellings not previously occupied		Dwellings previously occupied		Alterations and additions	Total		
	Number (b)	Amount (c)	Number (b)	Amount (c)	Amount	Amount	Number	Amount
		\$'000		\$'000	\$'000	\$'000		\$'000
1969-70 .. ..	444	3 357	865	5 542	289	9 188	78	524
1970-71 .. ..	578	4 853	1 281	8 989	242	14 085	113	1 151
1971-72 .. ..	630	5 718	1 580	12 171	409	18 298	125	999
1972-73 .. ..	776	7 953	2 037	18 108	569	26 630	135	1 350
1973-74 .. ..	860	10 534	1 782	18 422	753	29 709	140	1 314

(a) Includes amounts cancelled as a result of periodic examination of undrawn commitments.

(b) Number of loans for dwelling units approved for first mortgage finance only.

(c) Includes second mortgage finance to complete original purchase or construction.

At 30 June 1974, the balances outstanding on housing loans made by savings banks to individuals and to building societies were \$85 882 000 and \$1 986 000 respectively.

### Interest Rates

The next table shows the maximum rates of interest paid to depositors or charged to borrowers with home mortgages, by the Savings Bank of Tasmania. Interest rates paid to depositors or charged to borrowers with home mortgages, by the Launceston Bank for Savings, the Commonwealth Savings Bank and the savings bank subsidiaries of the private trading banks, may vary marginally from the rates shown in this table.

**The Savings Bank of Tasmania: Maximum Interest Rates (a)**  
(Per Cent Per Annum)

Date of change in rate	On savings accounts (b)	On home mortgages	Date of change in rate	On savings accounts (b)	On home mortgages
May 1963 .. ..	3.25	5.50	May 1971 .. ..	5.00	7.00
June 1964 .. ..	3.50	5.50	June 1972 .. ..	(c)4.50	7.00
April 1965 .. ..	3.75	5.75	March 1973 .. ..	(c)4.00	7.00
June 1966 .. ..	3.75	6.00	October 1973 .. ..	(c)4.00	(d)8.00
August 1968 .. ..	4.00	6.25	August 1974 .. ..	(c)4.00	(d)10.00
May 1970 .. ..	4.25	7.00	April 1975 .. ..	(e)4.00	(f)9.50

(a) Operative from first day in month shown.

(b) Interest on fixed deposits is as for trading banks.

(c) Effective on accounts to \$4 000.

(d) Effective for loans to \$12 500.

(e) Effective on accounts to \$4 000. From \$4 001 to \$20 000 the interest rate was 6.25 per cent.

(f) Effective rate for loans to \$12 500. For loans from \$12 501 to \$20 000 the rate is 11.0 per cent. For loans over \$20 000 the rate is 11.5 per cent.

## Overseas Exchange Rates

The next table shows average overseas exchange rates operative for recent periods:

Exchange Rates (a): Average for Period Shown, Overseas Currency Relative to Australian Dollar

Country	Unit of overseas currency	1970-71	1971-72	1972-73	1973-74
Belgium (b) .. .. .	Francs	55.11	52.49	53.51	57.17
Canada (c) .. .. .	Dollars	1.13	1.17	1.27	1.44
China (c) .. .. .	Renminbi (Yuan)	2.72	2.71	2.74	2.87
France (b) .. .. .	Francs	6.13	6.00	6.05	6.31
Germany, West .. .. .	Deutsche marks	4.02	3.80	3.85	3.71
Hong Kong .. .. .	Dollars	6.74	6.67	6.94	7.40
India .. .. .	Rupees	8.33	8.51	9.74	11.48
Italy (b) .. .. .	Lire	694	696	828	892
Japan .. .. .	Yen	397.36	368.29	363.49	404.52
Malaysia .. .. .	Dollars	3.41	3.38	3.37	3.50
Netherlands .. .. .	Guilders	3.99	3.84	3.92	3.93
New Zealand .. .. .	Dollars	0.998	0.998	1.031	1.031
Pakistan .. .. .	Rupees	5.29	5.39	(d)	(d)
Singapore .. .. .	Dollars	3.41	3.33	3.38	3.50
South Africa .. .. .	Rands	0.795	0.852	0.957	0.977
Sri Lanka (Ceylon) .. .. .	Rupces	6.59	6.85	8.12	9.56
Switzerland .. .. .	Francs	4.76	4.57	4.50	4.47
U.S.A. .. .. .	Dollars	1.12	1.17	1.28	1.47
U.S.S.R. (c) .. .. .	Roubles	1.006	0.989	1.016	1.1
United Kingdom .. .. .	Pound stg	0.465	0.461	0.522	0.614

(a) Average telegraphic transfer selling rates at Sydney.

(b) Two rates were quoted for France from 20.9.71 to 22.3.74, Italy from 1.2.73 to 22.3.74 and Belgium from 20.9.71. The rate shown for these periods is the financial rate used for trade transactions.

(c) Derived from foreign exchange rates quoted against pound stg in London and against pound stg in Sydney.

(d) Daily quotations available on application to any trading bank.

## INSTALMENT CREDIT AND OTHER FINANCING

### Finance Companies

*Finance Companies:* In these statistics finance companies are incorporated companies mainly engaged in providing, to the general public, these credit facilities: (i) instalment credit for retail sales; (ii) personal loans; (iii) wholesale finance; (iv) factoring; (v) other consumer and commercial loans; (vi) financial leasing of business equipment and plant; and (vii) bills of exchange.

The definitions associated with the statistics are set out in considerable detail in the bulletin *Finance Company Transactions* published by the Australian Bureau of Statistics, Canberra.

*Comparability:* This was affected by changes introduced on 1 July 1971, 1 July 1972 and 1 July 1973. From 1 July 1971: (i) the exclusion level for companies with balances outstanding was raised from \$100 000 to \$500 000; and (ii) the basis of valuation of leasing agreements was changed from 'initial capital cost less depreciation to date' to 'gross receivables', i.e., the present value of expected future receipts, including unearned income plus the agreed residual value of the goods at the end of the leasing period.

From 1 July 1972: (i) the category 'Commercial Loans Repayable at Call or Within 90 Days' was discontinued; and (ii) the definition of 'Personal Loans' has been amended to include any loans to persons for alterations and additions to existing dwellings estimated to cost less than \$10 000.



From 1 July 1973: (i) the definition of a 'Finance Company' was altered to include leasing and bill of exchange transactions as qualifying assets; (ii) companies mainly engaged in financing the operations of related companies by directly writing agreements with the general public were included in these statistics; and (iii) the item 'Instalment Credit for Retail Sales' has been redefined to exclude details of financing of 'producer' type goods such as plant and machinery, tractors, earth moving equipment, business machines and motor vehicles other than cars and station wagons.

**Finance Companies: Amount Financed, Collections and Other Liquidations, and Balances Outstanding by Type of Agreement, Revised Series (a)**  
(\$m)

Year	Instalment credit for retail sales	Wholesale finance	Other consumer and commercial loans		Total all contracts		
			Contracts including charges (b)	Contracts excluding charges (c)			
AMOUNT FINANCED							
1969-70	..	..	28.7	29.1	4.8	62.5	
1970-71	..	..	32.3	31.0	3.9	67.2	
1971-72	..	..	34.1	35.5	4.5	74.0	
1972-73	..	..	38.0	43.1	5.0	86.1	
1973-74	..	..	36.0	52.3	14.4	102.8	
COLLECTIONS AND OTHER LIQUIDATIONS OF BALANCES							
1969-70	..	..	36.3	29.0	2.4	1.4	69.0
1970-71	..	..	39.8	31.1	2.3	1.7	74.8
1971-72	..	..	42.9	34.7	1.8	2.8	82.3
1972-73	..	..	47.2	43.8	1.9	4.2	97.0
1973-74	..	..	43.1	52.1	12.3	3.2	110.5
BALANCES OUTSTANDING AT END OF YEAR							
1969-70	..	..	44.8	4.4	2.7	4.2	56.2
1970-71	..	..	49.2	4.7	2.5	5.1	61.5
1971-72	..	..	52.7	5.6	2.3	5.4	66.0
1972-73	..	..	57.3	5.8	2.9	4.5	70.5
1973-74	..	..	52.0	7.0	16.4	5.7	81.1

(a) See explanatory notes preceding table.

(b) Includes details of personal loans.

(c) Includes factoring.

The value of capital goods (business equipment and plant) leased by finance companies, over a five-year period, is shown in the table below:

**Finance Companies: Business Equipment and Plant on Lease**  
(\$m)

Particulars	1969-70	1970-71	1971-72 (a)	1972-73	1973-74 (b)
Value of goods leased during period ..	3.5	5.1	5.5	7.5	14.5
Balances outstanding at end of year ..	6.1	8.3	11.8	15.1	21.3

(a) Change in basis of reporting value of leased goods; see earlier section 'Comparability'.

(b) Change in definition of a Finance Company; see earlier section 'Comparability'.

In the following table the amount financed in respect of instalment credit for retail sales agreements (a single item in previous tables) is further classified by type of commodity.

**Finance Companies: Instalment Credit for Retail Sales, Revised Series:  
Amount Financed, Collections and Other Liquidations, and Balances Outstanding  
(\$m)**

Year	Amount financed during year					Cash collections and other liquidations during year	Balances outstanding at end of year
	Motor vehicles, etc.		Plant and machinery	Household and personal goods	Total		
	New	Used					
1969-70 .. ..	9.3	12.3	3.6	3.5	28.7	36.3	44.8
1970-71 .. ..	10.4	14.9	3.4	3.5	32.3	39.8	49.2
1971-72 .. ..	<u>10.5</u>	<u>17.0</u>	<u>2.8</u>	<u>3.7</u>	<u>34.2</u>	<u>43.0</u>	<u>52.7</u>
1972-73 .. ..	<u>11.9</u>	<u>19.3</u>	<u>3.8</u>	<u>3.0</u>	<u>37.8</u>	<u>47.2</u>	<u>57.3</u>
1973-74 (a) ..	(b)32.6		..	3.4	36.0	43.1	52.0

(a) See earlier section 'Comparability'.

(b) Not available for separate publication.

### **Instalment Credit for Retail Sales in Tasmania**

The collection of data on instalment credit transactions began as a series dealing simply with the hire purchase operations of non-retail finance businesses. The series was then expanded to, firstly, cover the hire purchase operations of retail businesses and, secondly, to introduce a concept of instalment credit considerably broader than hire purchase. A further stage in development has now been reached with a redefinition of the term 'instalment credit' and a change in the classification of businesses which operate instalment credit schemes from 'Retail Businesses' and 'Non-Retail Finance Businesses' to 'Finance Companies' and 'Other Businesses'.

As a result in this change in scope in the series, the statistics published in the following table are not strictly comparable with those published in previous years.

#### **Definitions**

The statistics cover operations of all types of instalment credit schemes which relate primarily to the financing of retail sales of goods, whether the credit is advanced by finance companies or other businesses. In general, the term 'instalment credit' is defined as relating to schemes in which repayment is made by regular pre-determined instalments. Types of schemes covered include hire purchase, time payment, budget account and personal loan schemes which relate primarily to financing of retail sales of goods. The term 'retail sales' relates only to retail sales covered by the censuses of retail establishments; from July 1973, other sales of goods to final purchasers (e.g. plant and equipment) are excluded.

Figures for amounts financed exclude interest, hiring charges, insurance, etc. Figures for balances outstanding and collections and other liquidations include these charges. Details are not available of these charges or of other items (e.g. rebates allowed for early payment, late payment charges and bad debts written off) which affect the reconciliation of the three main instalment credit series: amount financed, collections and other liquidations, and balances outstanding.

Statistics of amounts financed are classified by type of goods, defined as follows: (i) motor vehicles, etc.—new and used motor cars and motor cycles, boats, caravans, trailers, and motor parts and accessories; and (ii) household and personal goods—furniture, furnishings and floor coverings, domestic refrigerators, electrical goods, radios, televisions, musical instruments, bicycles, motor mowers, clothing, etc. *Note:* the category 'plant and machinery' has been discontinued from 1 July 1973 and the category 'motor vehicles, etc.' now excludes commercial type vehicles.

**Instalment Credit for Retail Sales, Revised Series (a), 1973-74**  
(Hire Purchase and Other Instalment Credit)  
(\$'000)

Source of finance	Amount financed during period (b)			Balances outstanding at end of period (c)
	Motor vehicles, etc. (d)	Household and personal goods	Total all goods	
Finance companies ..	32 555	3 427	35 982	52 032
Other businesses ..	457	5 489	5 946	5 621
Total .. ..	33 012	8 916	41 928	57 653

(a) Includes time payment, budget account, and personal loan schemes relating primarily to the financing of retail sales.

(b) Excludes hiring charges, interest and insurance.

(c) Includes hiring charges, interest and insurance.

(d) Types of goods included are defined under 'Definitions' preceding the table.

## OTHER PRIVATE FINANCE

### Friendly Societies

#### *Scope*

The details that follow refer to 'ordinary' societies, not to 'special' societies. Ordinary societies are those which provide customary sick and funeral benefits and are subject to actuarial valuation. Special societies restrict their membership to employees of industrial parent organisations and are not subject to actuarial valuation.

*Friendly Health Services (F.H.S.):* This organisation was originally established to administer medical and hospital benefit funds to which members of existing societies could contribute; funds, membership and activities of this description are excluded from statistics of ordinary friendly society activities. F.H.S. later extended its scope to 'ordinary' society activities. Details of the latter only are included in friendly society statistics.

#### *Membership*

Friendly societies were a form of social organisation to help members meet the costs of sickness, burial, etc. at a time when government social services were either meagre or non-existent. Membership reached a maximum (over 22 000 in male lodges) in the pre-depression years but has since steadily declined. From the 1950s, there has been rapid development of various government-encouraged insurance schemes to assist families with hospital and other expenses associated with sickness; such schemes have evolved, in general, outside the framework of the friendly society movement.

With F.H.S. excluded from consideration, it was observed that: (i) decline in membership of other ordinary societies has continued (from 6 816 members in 1962 to 3 509 in 1973); (ii) the average age of members has continued to increase (from 36.7 years in 1920 to 66.6 years in 1973).

In the following table male and female members of the F.H.S. Sickness and Assurance Fund and Whole of Life and Endowment Fund have been included.

**Friendly Society Membership and Number Who Received Sick Pay, 1973**

Particulars	Membership details					Members who received sick pay
	Financial members	Total membership	Average age of members	Admissions	Departures	
	no.	no.	years	no.	no.	no.
All societies (excl. Friendly Health Services)—						
Males .. .. .	3 403	3 450	66.6	4	219	507
Females .. .. .	58	59	68.0	..	2	3
Total .. .. .	3 461	3 509	66.6	4	221	510
Friendly Health Services ..	679	822	26.2	126	84	131
Total all societies ..	4 140	4 331	59.0	130	305	641

The figures in the next table, which excludes details for F.H.S., show the decline in membership of other ordinary societies:

**Societies, Lodges and Membership (a)**  
(Number)

Particulars	1968	1969	1970	1971	1972	1973
Societies .. .. .	8	8	8	8	8	8
Lodges—Male .. .. .	105	105	105	103	102	100
Female .. .. .	6	6	6	6	5	5
Benefit members .. .. .	4 684	4 400	4 164	3 931	3 726	3 509
Financial members .. .. .	4 612	4 347	4 104	3 877	3 666	3 461

(a) Friendly Health Services excluded.

### Revenue and Expenditure

The following table shows the net revenue and expenditure (excluding inter-fund transfers and transfers between districts and lodges) of friendly societies for the financial years which ended in 1973:

**Friendly Societies (a): Net Revenue and Expenditure, 1973**  
(£)

Revenue			Expenditure		
Particulars	Total	Per financial member	Particulars	Total	Per financial member
Members' contributions (b) .. .. .	64 492	15.6	Medical attendance and medicine .. .. .	1 361	0.3
Interest, rent and dividends .. .. .	94 912	22.9	Sick pay .. .. .	25 192	6.1
All other income .. .. .	18 997	4.6	Funeral benefits .. .. .	50 611	12.2
			Administration .. .. .	60 401	14.6
			Endowment benefits .. .. .	32 001	7.7
			Other .. .. .	18 585	4.5
Total .. .. .	178 401	43.1	Total .. .. .	188 151	45.4

(a) Includes Friendly Health Services.

(b) Includes levies.

**Friendly Societies (a): Receipts, Expenditure and Accumulated Funds  
(\$'000)**

Year	Net receipts (b)		Net expenditure (b)				Accumulated funds
	Contributions and levies	Total (c)	Sick pay	Funeral benefits	Other (d)	Total	
1969 .. ..	58	156	20	50	69	139	1 387
1970 .. ..	59	164	18	47	71	137	1 411
1971 .. ..	64	173	17	41	71	129	1 447
1972 .. ..	66	175	23	47	88	158	1 463
1973 .. ..	64	178	25	51	112	188	1 453

(a) Includes Friendly Health Services.

(b) Excludes interfund transfers and transfers within societies.

(c) Comprises: (i) income from investments; (ii) grants received by Friendly Health Services from the ordinary societies; and (iii) other revenue items not specified in the table.

(d) Includes administration and medical attention expenses and endowment benefits paid by societies to members.

**Registered Building Societies**

*Permanent Societies:* These societies are both savings and deposit-receiving institutions which advance funds for home building or purchase against the security of first mortgages. Those who invest by taking shares or by making deposits are in a separate category from those who borrow to build or buy a home. The following table summarises the transactions of the permanent building societies in Tasmania:

**Permanent Building Societies**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	no.	no.	no.	no.	no.
Operating societies .. ..	6	6	6	6	5
Investing shareholders .. ..	11 650	13 104	14 347	15 765	16 936
Borrowers .. ..	5 840	6 094	6 408	7 514	7 124
	\$'000	\$'000	\$'000	\$'000	\$'000
Loans—Advanced .. ..	10 273	6 520	10 097	18 777	17 849
Repaid .. ..	4 332	5 137	5 546	7 758	10 144
Deposits—Received (a) .. ..	22 805	29 549	38 975	52 625	54 629
Withdrawn .. ..	20 535	26 876	36 187	44 491	61 074
Liabilities—					
Paid-up capital and subscriptions ..	16 156	17 780	23 553	31 169	40 379
Accumulated profits, reserves ..	951	1 079	1 147	1 363	1 490
Deposits .. ..	17 169	19 841	22 630	30 763	24 318
Other .. ..	1 746	844	822	1 613	2 401
Total .. ..	36 022	39 544	48 152	64 907	68 589
Assets—					
Loans on mortgage .. ..	33 724	35 107	39 657	50 676	58 381
Land and buildings .. ..	584	1 188	928	1 240	1 440
Government securities .. ..	1 255	1 534	3 055	4 003	4 149
Other investments .. ..	181	1 430	4 151	8 508	3 954
Cash and current deposits .. ..	10	96	77	100	129
Other .. ..	268	188	283	380	536
Total .. ..	36 022	39 544	48 152	64 907	68 589

(a) Includes interest credited to depositors' accounts.

*Terminating Societies:* These are societies which, by their rules, are to terminate at a fixed date or when a result specified in their rules is attained. Societies issue members one class of share and require equated monthly instalments towards share capital from members; when a member borrows to build (and only a member may borrow) he is required to pay additional equated monthly instalments, such addition constituting interest only. The regular instalments in respect of share capital are calculated to amount, with interest, to the nominal amount of the member's shares over the life of the society (say 26 or 30 years). If the member takes out shares with a nominal value of \$6 000, then his borrowing ceiling is set at \$6 000—in other words, the member takes out, in nominal share capital, the amount which he wishes to borrow for home-building. In effect, the member is contributing to a sinking fund for the liquidation of his loan. The terminating societies are termed 'co-operative'.

In the following table relating to co-operative housing (terminating) societies, 'Loans from government' and 'Loans due to government' up to 1971-72 refer principally to loan money made available under the Federal-State Housing Agreement. Such funds were advanced to the societies through the Agricultural Bank which acted as agent for the Australian Government in this field. For 1971-72, loans from the Government for co-operative housing societies were allocated from the State Loan Fund. This system of allocation continued to operate during 1972-73, however, from 1 July 1973 funds were again advanced from money made available under an Australian Government State Housing Agreement. The limit of an individual loan was raised from \$8 000 to \$9 000 in August 1969, to \$10 000 in August 1972, to \$12 000 in July 1973 and to \$15 000 in July 1974.

The following table summarises the transactions of the co-operative housing societies operating in Tasmania:

Co-operative Housing Societies

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	no.	no.	no.	no.	no.
Operative societies .. .. .	87	92	98	103	112
Shareholders .. .. .	1 942	2 089	2 109	2 212	2 259
Loans—Advanced .. .. .	\$'000 1 735	\$'000 1 622	\$'000 734	\$'000 1 572	\$'000 1 568
Repaid .. .. .	454	480	558	888	1 050
Loans from—Government .. .. .	1 059	1 333	525	1 553	1 498
Other lenders .. .. .	737	373	258	98	126
Repayments to—Government .. .. .	497	532	542	799	962
Other lenders .. .. .	200	237	258	337	303
Liabilities—					
Share subscriptions .. .. .	852	980	1 087	1 200	1 257
Reserves .. .. .	378	447	522	604	698
Loans due to—Government .. .. .	6 224	7 024	7 007	7 761	8 297
Other lenders (a) .. .. .	2 761	2 897	2 898	2 658	2 481
Other .. .. .	132	170	139	193	185
Total .. .. .	10 348	11 518	11 652	12 415	12 917
Assets—					
Loans on mortgage .. .. .	10 109	11 250	11 425	12 109	12 627
Other .. .. .	239	268	227	306	290
Total .. .. .	10 348	11 518	11 652	12 415	12 917

(a) Includes bank overdrafts for day-to-day running of societies.

## Co-operative Societies

The next table summarises the financial transactions of societies registered under Tasmanian law as co-operative industrial societies; excluded are co-operative credit societies which are dealt with in a subsequent section. The activities of co-operative societies include processing of primary products, fish and meat marketing and wholesaling groceries; profits are distributed among members.

## Co-operative Societies

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	no.	no.	no.	no.	no.
Societies .. .. .	17	17	16	15	15
Shareholders .. .. .	6 391	6 434	6 695	7 047	7 186
	\$'000	\$'000	\$'000	\$'000	\$'000
Sales .. .. .	10 451	11 063	12 346	11 918	10 638
Less cost of goods sold .. .. .	8 832	9 278	10 506	10 401	9 229
Trading profit .. .. .	1 619	1 784	1 840	1 517	1 409
Add non-operating receipts (a) .. .. .	749	626	670	474	488
Less expenses—					
Wages and salaries .. .. .	788	893	871	559	502
Interest .. .. .	130	169	172	142	117
Administration .. .. .	281	281	316	313	307
Other .. .. .	941	993	955	798	780
Net surplus .. .. .	227	74	196	178	192
Dividends paid .. .. .	56	74	32	26	71

(a) Commissions, discounts, services, etc.

Co-operative Societies: Assets and Liabilities at End of Year  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>Liabilities—</b>					
Paid-up capital .. .. .	1 224	1 248	1 304	1 410	1 425
Accumulated profits .. .. .	631	685	788	907	512
Reserve funds .. .. .	619	546	479	420	966
Loans and bank overdraft .. .. .	2 229	2 388	2 333	1 633	1 501
Sundry creditors .. .. .	2 012	2 041	2 022	1 319	1 467
Other .. .. .	267	352	279	342	333
Total .. .. .	6 983	7 260	7 205	6 032	6 203
<b>Assets—</b>					
Fixed .. .. .	2 144	2 156	2 306	2 067	2 227
Stock on hand .. .. .	1 236	1 224	1 228	944	922
Sundry debtors .. .. .	2 527	2 920	2 804	1 484	1 253
Other .. .. .	1 076	961	868	1 538	1 801
Total .. .. .	6 983	7 260	7 205	6 032	6 203

## Co-operative Credit Societies

## Description

The co-operative credit societies (credit unions) are registered under the *Co-operative Industrial Societies Act 1928*. Most credit unions have been established by trade unions (e.g. those serving teachers, hospital employees, etc.) and by church groups. Members contribute capital by taking out shares and making deposits. The aim of the societies is to make loans to members at low rates of interest.



*Transactions*

The following table shows the societies' annual transactions:

**Co-operative Credit Societies**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	no.	no.	no.	no.	no.
Operating societies.. .. .	23	26	27	27	27
Shareholders .. .. .	13 681	16 983	19 882	22 918	25 508
Borrowers .. .. .	8 153	9 773	11 728	14 185	15 770
	\$'000	\$'000	\$'000	\$'000	\$'000
Loans—Advanced .. .. .	3 638	4 543	5 814	(a) 7,664	(a) 7 795
Repaid .. .. .	2 188	3 112	4 148	(a) 5 284	(a) 6 370
Deposits—Received (b) .. .. .	5 290	6 978	9 787	(a) 12 780	(a) 13 966
Withdrawn .. .. .	3 979	5 378	7 862	(a) 10 397	(a) 12 419
Liabilities (at end of period)—					
Paid-up capital .. .. .	118	149	174	195	217
Reserves, accumulated profits .. .. .	75	84	78	72	24
Deposits .. .. .	4 709	6 308	8 233	10 615	12 161
Other .. .. .	355	318	378	500	549
Total .. .. .	5 257	6 859	8 863	11 382	12 952
Assets (at end of period)—					
Loans .. .. .	4 968	6 399	8 064	10 442	11 868
Cash and current deposits .. .. .	111	207	349	366	285
Other .. .. .	178	254	450	574	800
Total .. .. .	5 257	6 859	8 863	11 382	12 952

(a) Partially estimated.

(b) Includes interest credited.

**Pension and Superannuation Schemes***Private Schemes*

Surveys on an Australia-wide basis have revealed superannuation and/or retiring allowance schemes for employees in the private sector as follows: (i) schemes operated through life insurance offices, friendly societies and other organisations such as unit trusts; (ii) superannuation, pension and retiring allowance funds constituted by businesses; and (iii) direct payments of pensions and/or retiring allowances by the employer. No details have been released for individual states. Australian data are published in the Bureau's bulletin 'Survey of Selected Private Pension Funds'.

*Government, Local Government and Semi-Government Schemes*

The levels of government operating in Tasmania are: (i) federal; (ii) state; (iii) local authority; and (iv) semi-government authority. In the section that follows, any pension or superannuation scheme affecting employees of the Australian Government or its instrumentalities is excluded.

Government superannuation and pension schemes are included as part of 'Private Finance' because the funds involved do not belong to any government but are actually trust moneys held on behalf of contributors. Employees of the State Government contribute to separately constituted funds to which the State Government also makes contributions. Employees of local government and semi-government authorities are covered either by separately constituted funds or by schemes operated through life insurance offices.

The first pension and gratuity scheme for State public servants, introduced in 1860, was non-contributory and short-lived, being repealed in 1863. A contributory provident fund was established under the *Civil Service Act* 1900 but this scheme was also short-lived and made way for a contributory but State-subsidised scheme established under the *Public Service Superannuation Fund Act* 1905; a year earlier, a distinct fund had been established with similar principles to serve the teaching service. The *Superannuation Act* 1938 established a new fund to serve both public servants and teachers but some pensions continued to be paid from the two funds established in 1904 and 1905. It was not until 1 July 1968 that the residual assets and pension liabilities of these older funds were transferred to the State Superannuation Fund Board. The assets transferred from the 1904 teachers' fund were \$52 990 and from the 1905 public servants' fund, \$17 103.

*State Superannuation Scheme 1971:* In December 1970, the *Superannuation Fund Act* 1938 was amended to provide for adjustments to pensions in accordance with movements in the Consumer Price Index. Next, a new scheme was embodied in the *Retirement Benefits Act* 1970, the date of operation being fixed at 1 July 1971. Contributors to the 'old' scheme were given the right of election, i.e. to change to the 'new' scheme or to stay with the 'old'. The main provisions of the new scheme were as follows:

- (i) A new retirement fund was to be established with contributions from government and employees.
- (ii) Employees transferring from the old scheme to the new were to pay contributions equivalent to 5.5 per cent of annual salary. New entrants to the State service were to have a choice and either pay at a 5.5 per cent or 2.75 per cent rate.
- (iii) Pensions payable would depend on three factors: (a) length of service (40 years is necessary to obtain the best pension rate); (b) average annual salary received during the last three years of service; and (c) the chosen percentage contribution (i.e. 5.5 per cent or 2.75 per cent).
- (iv) Pensions payable were to be adjusted according to the annual movement in the Consumer Price Index revealed in September quarter figures.
- (v) Persons entering the State service from prescribed superannuation funds were to be able to transfer to the Retirement Benefits Fund without being treated as new entrants (for calculation of length of service).
- (vi) Management and control of the Retirement Benefits Fund is vested in the five-member Retirement Benefits Fund Board.
- (vii) Investment of the Fund is managed by the Retirement Benefits Fund Investment Trust comprising three members, including the Solicitor-General who is chairman. The Trust may invest in trustee securities and may also invest a small proportion of the Fund in company debentures and the acquisition of land.

The adoption of fixed percentage contributions as the basis for the new scheme overcomes the main difficulty with the more traditional type of scheme, namely the prohibitive cost of new units for contributors in the upper-age brackets. The other improvement is the annual provision for automatic adjustment of the pension in accordance with price index movements.

*Separately Constituted Funds:* In the table that follows, the operations of the following schemes have been combined and summarised: (i) State Superannuation Fund; (ii) State Retirement Benefits Fund; (iii) Police Provident Fund; (iv) Metropolitan Transport Trust—Retiring Allowance and Staff Pension Funds; (v) Marine Boards' independent schemes; (vi) University of Tasmania—Non-Assurance

Subscribers' Accumulation and Additional Benefits Funds; (vii) Hobart Corporation Retiring Allowance Funds; and (viii) Milk Board of Tasmania Superannuation Fund.

**State, Local Government and Semi-Government Pension and Superannuation Schemes  
Operated Through Separately Constituted Funds**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees .. .. .	2 239	2 715	3 647	4 098	4 945
Employing authorities .. .. .	2 368	2 700	3 339	3 542	4 122
Interest, dividends and rent .. .. .	1 654	1 905	2 194	2 513	2 990
Other income .. .. .	18	84	(a) 152	241	447
Total .. .. .	6 278	7 405	9 332	10 394	12 505
Expenditure—					
Pensions .. .. .	2 762	3 132	3 572	4 126	4 862
Lump sum payments—					
On retirement or death .. .. .	347	570	1 032	755	818
On resignation or dismissal .. .. .	495	485	362	530	737
Other expenditure .. .. .	68	105	32	30	47
Total .. .. .	3 673	4 292	4 998	5 441	6 464
Total assets at end of year .. .. .	29 903	32 914	37 299	42 206	48 274
Funds in operation .. .. .	no. 12	no. 12	no. 13	no. 12	no. 12
Contributors at end of year .. .. .	13 618	14 006	14 699	15 087	15 705
Number of pensioners at end of year .. .. .	2 757	2 886	3 053	3 152	3 249

(a) Includes value of insurance policies (\$29 000) transferred to the new Retirement Benefits Fund in 1971-72 from pension and superannuation schemes operated through life insurance offices.

In the previous table, the principal funds included are the State Superannuation Fund and the Retirement Benefits Fund contributed to by all permanent full-time employees of the Public Service, Teaching Service, Transport Commission, Hydro-Electric Commission, Metropolitan Transport Trust, all hospitals subsidised by the State Government and certain police officers (see notes on Police Provident Fund for details). The following table gives principal details of these two funds:

**State Superannuation Fund and Retirement Benefits Fund**

Particulars at 30 June	Number of contributors	Number of pensioners		Accumulated funds (a) (\$'000)
		Ex-employees	Widows and children	
STATE SUPERANNUATION FUND				
1971 .. .. .	12 643	1 635	1 217	27 962
1972 .. .. .	7 282	1 577	1 213	30 280
1973 .. .. .	r 6 255	1 612	1 195	32 611
1974 .. .. .	5 674	1 604	1 180	(b)22 767
RETIREMENT BENEFITS FUND				
1972 .. .. .	6 117	184	43	1 624
1973 .. .. .	r 7 364	240	64	3 748
1974 .. .. .	8 560	329	88	(b) 19 110

(a) Total assets less liabilities.

(b) Assets to the value of \$12 355 344 were transferred from the State Superannuation Fund to the Retirement Benefits Fund during 1973-74.

**Police Provident Fund:** The Police Provident Fund, a *closed fund* included in an earlier table, had accumulated funds of \$3 737 786 at 30 June 1974. An amendment to the *Superannuation Act* 1938, in 1963, provided that police officers appointed after 31 December 1963 were required to become contributors to the now closed State Superannuation Fund. Police Officers appointed prior to 1 January 1964 could continue as contributors to the Police Provident Fund or exercise an option to become contributors to the State Superannuation Fund. Police officers appointed on or after 1 July 1971 contribute to the Retirement Benefits Fund.

**Schemes Operated Through Life Insurance Offices:** A number of local government and semi-government authorities in Tasmania operate pension and superannuation schemes for their employees through life insurance offices. The next table combines and summarises the operations of such schemes. The following are the main authorities concerned: (i) Semi-government—marine boards, fire brigades, Metropolitan Transport Trust (Launceston and Burnie), University of Tasmania, ambulances, Society for Blind and Deaf, Museum and Art Gallery, Botanical Gardens; and (ii) Local Government—the cities and municipalities. Some authorities, e.g. University, Metropolitan Transport Trust, etc., operate schemes on both bases, i.e. some through separately constituted funds, and others through life insurance offices.

**Local and Semi-Government Pension and Superannuation Schemes Operated Through Life Insurance Offices**

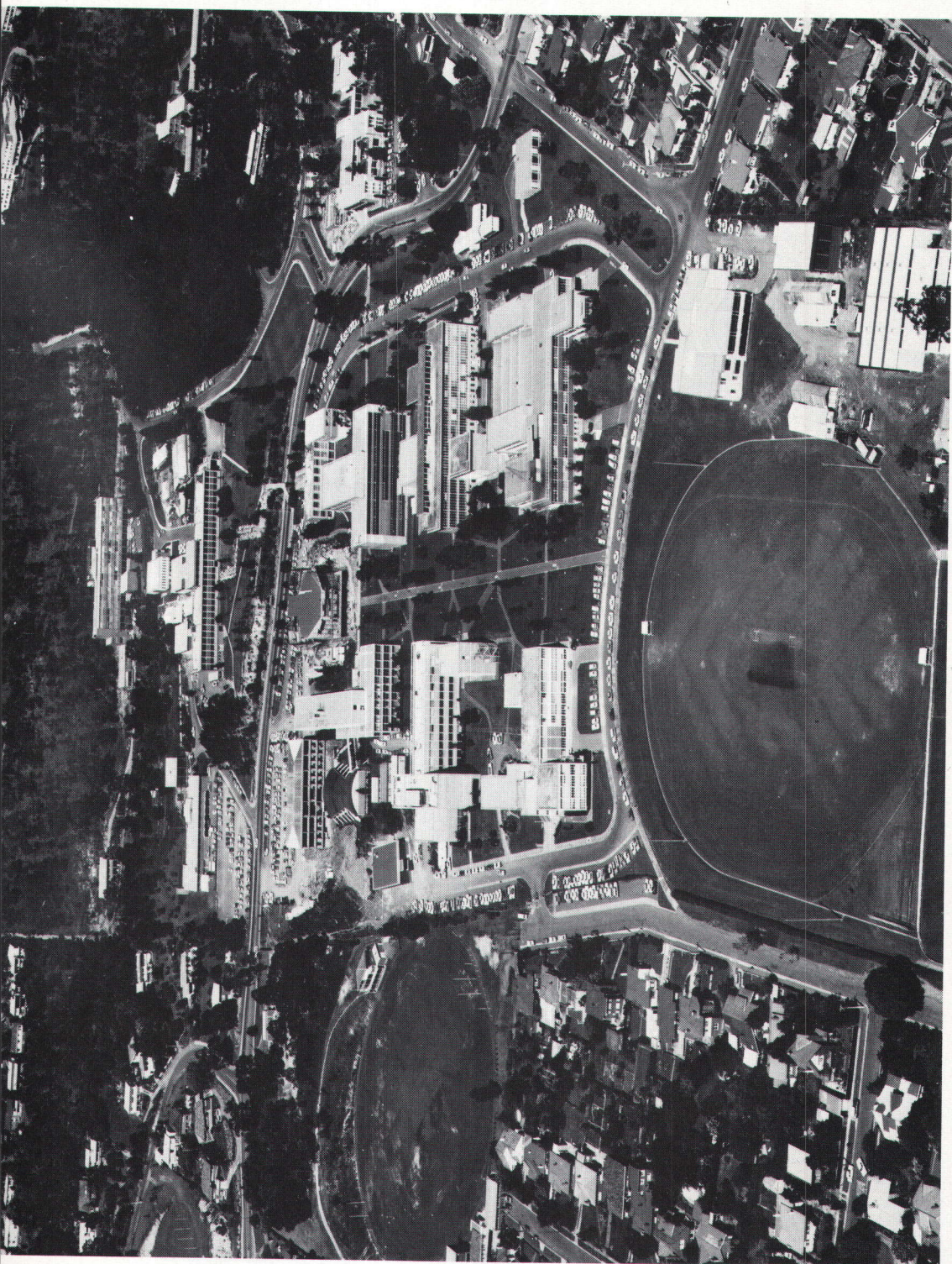
Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	\$'000	\$'000	\$'000	\$'000	\$'000
<b>Income—</b>					
Contributions—					
Employees .. .. .	463	519	611	653	914
Employing authorities .. .. .	663	782	923	994	1 523
Surrenders .. .. .	143	148	184	125	237
Death claims .. .. .	73	99	85	68	156
Matured policies .. .. .	87	226	120	567	521
Other income .. .. .	30	31	34	20	155
<b>Total .. .. .</b>	<b>1 458</b>	<b>1 804</b>	<b>1 957</b>	<b>2 428</b>	<b>3 507</b>
<b>Expenditure—</b>					
Premiums paid to insurance companies	1 129	1 308	1 534	1 674	2 192
<b>Benefits—</b>					
On death or retirement .. .. .	154	334	217	640	678
On resignation or dismissal .. .. .	123	131	138	121	235
Other expenditure .. .. .	19	14	(a)43	7	10
<b>Total .. .. .</b>	<b>1 425</b>	<b>1 786</b>	<b>1 932</b>	<b>2 442</b>	<b>3 115</b>
Funds in operation .. .. .	no. 20	no. 19	no. 19	no. 21	no. 22
Contributors (at end of period) .. .. .	2 374	2 436	2 448	2 832	3 061

(a) Includes \$29 000 transferred by policy surrender to the Retirement Benefits Fund.

**Miners' Pension Fund**

In 1943 a bill was introduced into the Tasmanian Parliament to establish a miners' pension fund; the legislation received Royal Assent in 1944. For the purposes of the original legislation and subsequent amending Acts a mine was defined as '... a coal mine or oil-shale mine in this State, and includes a quarry in this State from which coal or oil-shale is obtained, and all the land at or near the entrance to the workings in such a mine or quarry and occupied by the owner in connection with the winning of coal or oil-shale therefrom'.

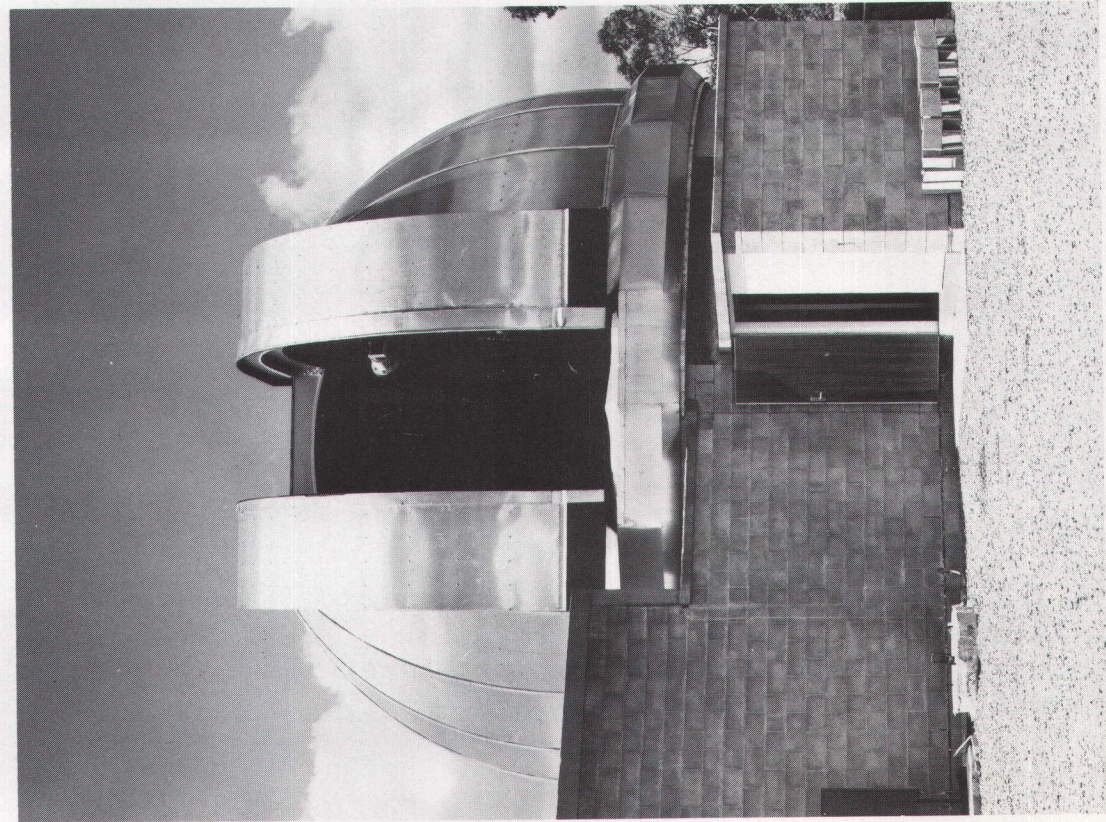




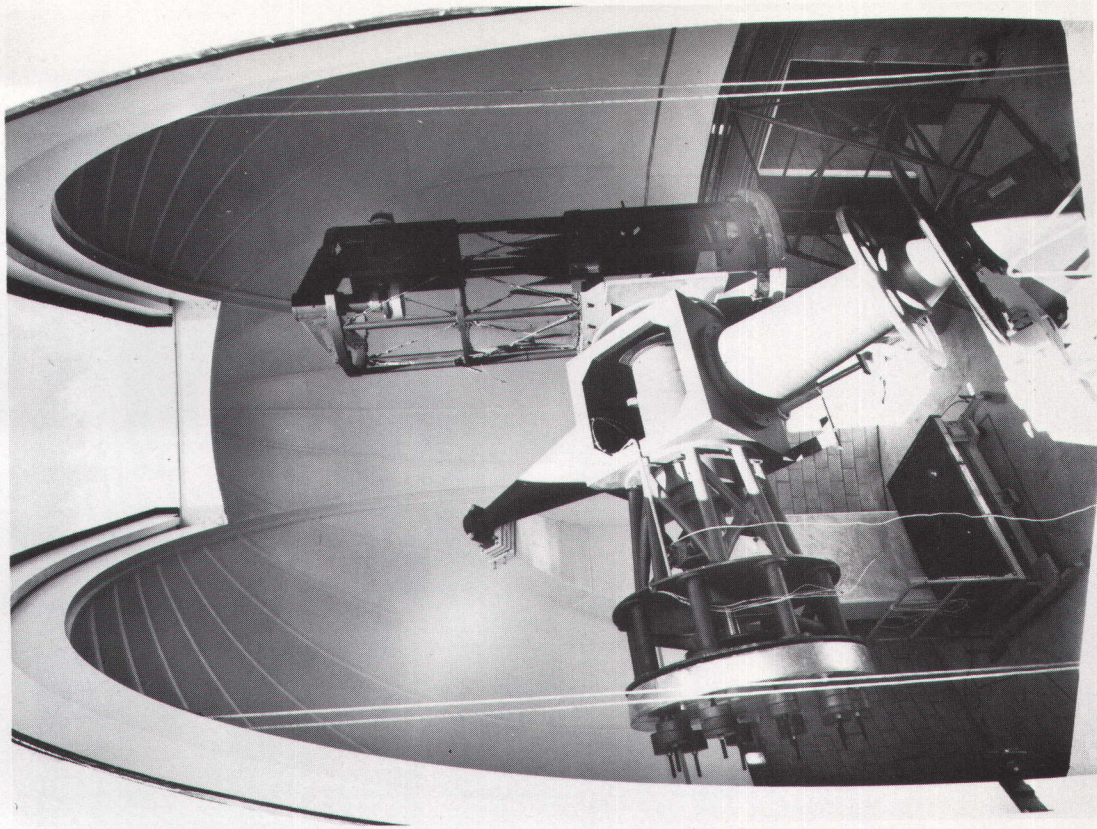
Campus: University of Tasmania

[Dept of Film Production]



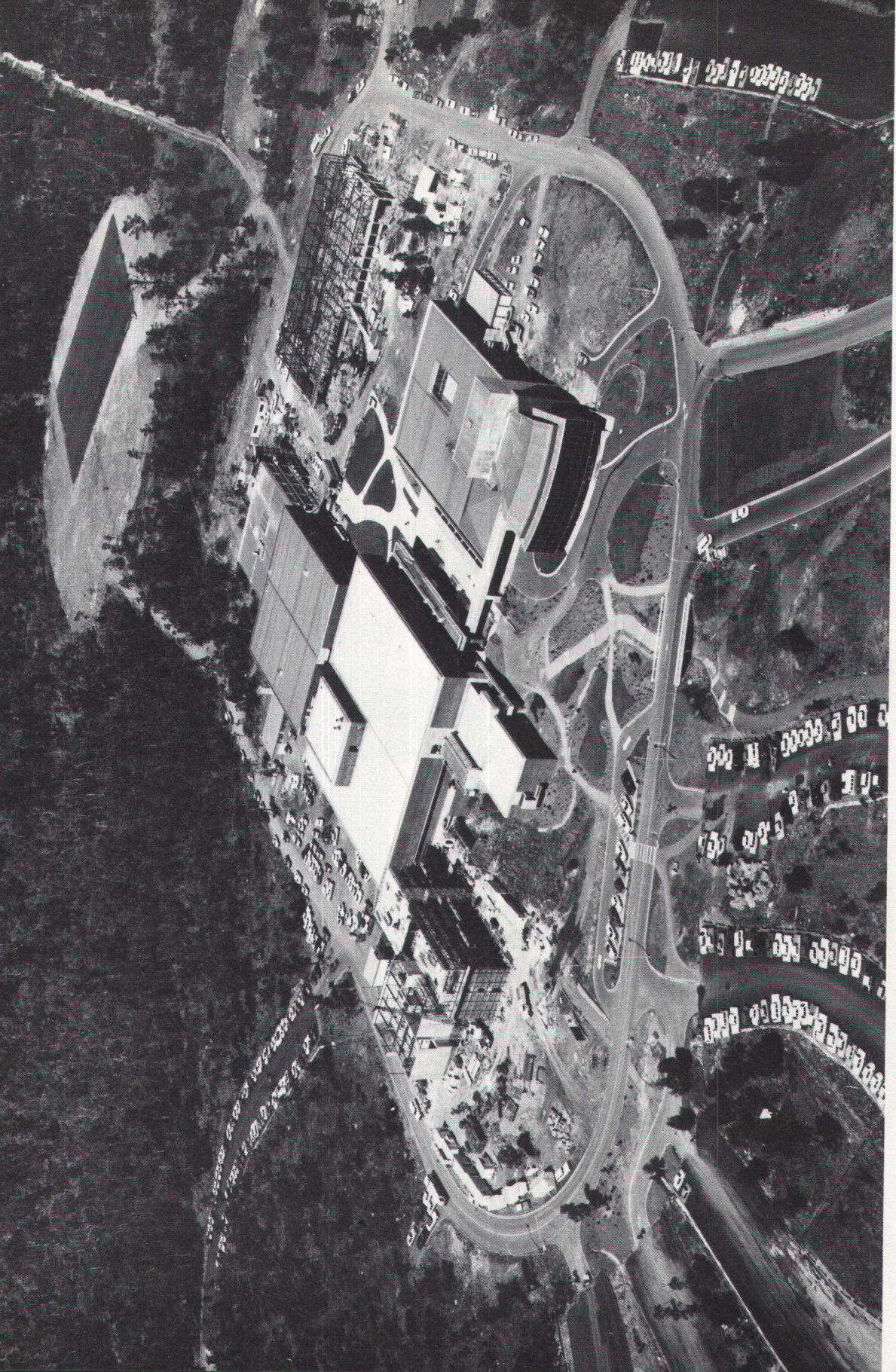


*Canopus Hill Telescope near Mt Rumney*



*[Dept of Film Production]*





*Campus: Tasmanian College of Advanced Education, Mr Nelson*





*[Dept of Film Production]*

*Hellyer Regional Library, Burnie*



From the Fund, administered by a three-man board, pensions are paid to miners upon retirement or when incapacitated by injury, etc. and in certain circumstances, to widows and dependants. Contributions to the Fund are made by the State Government, mine owners and miners. Details are as follows:

Miners' Pension Fund

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	\$'000	\$'000	\$'000	\$'000	\$'000
Income—					
Contributions—					
Employees .. .. .	2	2	2	2	2
State Government .. .. .	30	30	30	30	50
Mine owners .. .. .	12	11	12	12	11
Interest, dividends and rent .. .. .	10	9	10	10	10
Total .. .. .	54	53	54	54	73
Expenditure—					
Pensions .. .. .	61	57	56	52	50
Other expenditure .. .. .	2	2	2	2	4
Total .. .. .	63	59	59	54	54
Assets (at end of period) .. .. .	178	172	168	r 168	187
Contributors (at end of period) .. .. .	no. 54	no. 53	no. 53	no. 46	no. 55
Pensioners (at end of period) .. .. .	151	145	140	132	129

An actuarial report in 1963 indicated that the fund was deficient to the extent of \$657 098. Amending legislation in 1963 provided for the State to contribute such annual sum, not exceeding \$30 000, as the Treasurer might consider necessary to ensure the solvency of the Fund. Previously the State had matched the mine owners' contributions which were related to coal production. The Act was further amended in 1973 to remove the limit on the Government's contribution.

#### *The Parliamentary Pension and Superannuation Scheme*

The *Parliamentary Retiring Allowances Act 1955* was repealed and replaced by the *Parliamentary Superannuation Act 1973*, effective from 1 July 1973.

The previous scheme was purely contributive. It provided for a full basic rate pension for members who retired, or were defeated, after a minimum qualifying period of 15 years. Lesser rate pensions were calculated pro-rata to the length of service expressed as a fraction of 15 years; for service less than eight years, a member received only a refund of his contributions. The pension applicable was an amount equal to \$12.50 weekly, plus 34.5 per cent of Australian average weekly earnings per employed male unit in each year ended March, as calculated from employment and wages data on pay-roll tax returns.

#### *Parliamentary Superannuation Act 1973*

Administration of the new scheme is in the hands of a three-man Tribunal; the President of the Legislative Council, the Speaker of the House of Assembly and the Under-Treasurer. The rate of contribution to the fund is 12 per cent of the current annual salary, effective from 1 July 1973.

The pension payable to a member on his retirement or defeat is now expressed as a percentage of his current annual basic salary as varied by his total period of service. Full pension rights are established by a minimum period of 15 years

service. The percentage of basic salary at the date of retirement varies from 62.5 for 15 years but less than 16 years service, to 70.0 for 20 years or more service.

For those members with less than 15 years but with at least eight years service, the rate of pension applicable is an amount equal to a percentage of current basic salary according to the period of service, multiplied by the ratio of the total parliamentary salary received during the period of service to the total basic salary in respect of the period of service. The percentage of basic salary varies from 41.2 for eight years but less than nine years service, to 61.0 for 14 years but less than 15 years service.

Members who retire or resign with less than eight years service receive a refund of contributions. No interest is paid on the accrued contributions.

These general provisions of contribution and rate of pension may be varied in cases where the tribunal sees fit and which are in accordance with the Act. Any appeal against a decision of the Tribunal is heard by the Supreme Court of Tasmania.

State Parliamentary Superannuation Scheme  
(\$'000)

Particulars	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74(a)
Income—						
Members' contribution (b)	39	41	43	46	49	86
Government contribution	3	34	49	76	72	140
Interest .. .. .	2	..	..	..	..	..
Total .. .. .	43	75	92	122	121	227
Expenditure—						
Pension payments (c) ..	68	86	90	93	120	216
Other (including refunds)	11	1	3	29	1	7
Total .. .. .	79	86	92	122	121	224
Total assets (at end of period)	14	4	..	..	..	6
Less liabilities .. .. .	3	3	..	..	..	2
Accumulated funds .. ..	12	..	..	..	..	3

(a) See explanatory notes preceding table.

(b) Number of contributors throughout period, 54 (House of Assembly, 35; Legislative Council, 19).  
Contribution for basic rate pension compulsory.

(c) Number of pensioners at 30 June 1974, 33.

## Real Estate Transactions

### Title to Land

When acquiring land today, the buyer needs to know whether the documents are under the 'old system' or the 'new system'. The new system dates from the *Real Property Act* 1862 when Tasmania introduced an adaptation of the Torrens system (Sir Robert Torrens' Real Property Act became law in S.A. in 1858). The Torrens system provides that the matter of title to land shall be a government responsibility. Each piece of separately-owned land is represented by a certificate of title which, with a few minor exceptions, is guaranteed by the State; in Tasmania, the issue and registration of titles is the work of the Land Titles' Office. A statutory assurance fund is maintained to indemnify owners against loss through error.

Land alienated before 1862 was not subject to the provisions of the *Real Property Act* and transactions involving such land are still being recorded under the *Registration of Deeds Act* (the first Tasmanian Deeds Act was made in 1827); this is the 'old system', involving complicated conveyancing, searching, etc. The conveyance is merely evidence of ownership as between the parties to the agreement and lacks the element of conclusive proof inherent in the new system under which the Torrens certificate of title proclaims 'that the person mentioned in it is owner of the land therein described as against all the world'. Put another way, land passing from A to B, and then to C under the old system requires a search to ascertain the validity of B's ownership and then of A's ownership; under the new system, C's certificate of title is adequate proof without any reference to A and B.

The dual system persists to this day but the *Local Government (Registered Titles) Act 1966* provided that all new sub-divisions of land should be brought under the *Real Property Act* without charge. Fees on voluntary applications to bring land under the *Real Property Act* have also been abolished to encourage other owners to change to the Torrens system.

#### *Property Sales and Mortgages*

Sales of real estate, and mortgages on the security of real estate, involve either certificates of title, under the new system, or deeds, conveyances, etc. under the old system. In the following table, sales and mortgages, recorded both under the *Real Property Act* and the *Registration of Deeds Act* are combined to give a single series showing real estate transactions in Tasmania over a 10-year period:

Real Estate Transactions (a)

Year	Property sales		Mortgages			
	Number	Total consideration	Registered		Discharged	
			Number	Amount	Number	Amount
1964-65	10 163	\$'000		\$'000		\$'000
1965-66	10 272	60 690	9 304	45 996	6 571	22 992
1966-67	11 011	56 637	9 818	44 999	6 722	22 957
1967-68	11 626	65 341	9 408	52 258	7 578	24 990
1968-69	10 657	72 651	10 233	60 980	7 419	25 086
1969-70	11 478	74 069	10 616	67 009	7 009	25 237
1970-71	11 092	87 763	9 877	68 924	7 359	28 490
1971-72	11 452	85 043	9 085	66 468	7 150	32 286
1972-73	14 052	91 435	9 803	71 007	7 813	37 332
1973-74	17 685	135 539	12 134	93 804	9 842	59 796
		205 549	13 448	129 787	11 125	61 124

(a) Registered under the *Real Property Act* and *Registration of Deeds Act*.

## Chapter 13

### HOUSING AND BUILDING

#### DWELLING STATISTICS

Information concerning the housing of the State's population is obtained from householders' schedules collected during the population censuses. For the purposes of the 1971 Census an 'occupied dwelling' was defined as 'any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building'. The term, therefore, has a very wide reference. Definitions used for the 1971 Census in respect of dwellings are set out below:

##### *Private Dwellings*

Private dwellings are further classified into the following three categories:

*Private Houses:* These include separate semi-detached and attached (i.e. a house attached to business premises) houses, terrace (or row) houses and villa flats or cottage units (i.e. one of a group (three or more) of single or double storey homes separate or joined together in sets and *all occupying a common block of land*). Includes shared private houses for which only one census schedule was received.

*Flats:* Include self-contained flats and home units i.e. they are able to be completely closed-off and have their own cooking and bathing facilities.

*Other Private Dwellings:* Include non-self-contained flats, room(s), shared part of house for which a separate census schedule was obtained and where occupied on a semi-permanent basis, improvised homes (shed, tent, garage, etc.) and caravans, houseboats, etc.

##### *Other Than Private Dwellings*

These include hotels; motels; boarding houses; hostels; educational, religious and charitable institutions; hospitals; defence and penal establishments; police and fire stations; residential clubs; staff barracks and quarters, etc.

##### *Unoccupied Dwellings*

These include vacant dwellings available for sale or renting; dwellings such as 'week-ender', 'holiday-home', 'second home', seasonal workers' quarters', which were not occupied on the night of the census; dwellings normally occupied but whose usual occupants were temporarily absent on the night of the census; newly completed dwellings whose owners or tenants had not entered into occupation on the night of the census; dwellings described as 'to be demolished', 'condemned', 'deceased estate'; and buildings constructed as dwellings but used for non-dwelling purposes on the night of the census. The total of unoccupied dwellings must not be read as the number of vacant houses and flats available for sale or renting.

*Definitional Changes*

As from 1 July 1973, definitional changes affecting dwellings were introduced into the 'building approvals' and 'building construction' statistical series. Private dwellings are now merely dissected into 'houses' and 'other dwellings' and definitions for these are shown below. (These definitions will be adopted for the 1976 Population Census.)

*House:* A house is defined as a building which has been designed or adapted so that its prime purpose is a single self-contained dwelling unit which is completely detached from other buildings; and occupies (except in such cases as dwellings built for employees or families of the owner or lessee of the land) a separate titled block of land.

*Other Dwellings:* 'Other dwellings' describes all other private dwellings not included under 'houses' and includes dwellings previously described as 'flats, semi-detached home units, villa units, duplexes, etc.'

**1971 Census: Dwelling Statistics***Dwellings at 1971 Census*

The following table shows the classification of occupied dwellings and the number of unoccupied dwellings at the 1971 Census:

**Dwellings at Census 30 June 1971**

Description	Number	Total occupants	Description	Number	Total occupants
Private—			Non-private—		
Occupied— .. ..			Occupied—		
House .. ..	99 396	352 105	Hotels, motels ..	297	2 454
Self-contained flat ..	8 417	18 161	Staff quarters ..	122	2 842
Other .. ..	1 784	3 264	Boarding houses ..	178	1 603
Total .. ..	109 597	373 530	Boarding schools (incl. residential colleges) ..	44	2 310
			Hospitals .. ..	46	2 459
Total unoccupied ..	13 307	..	Other .. ..	178	(a) 5 215
Total private ..	122 904	373 530	Total .. ..	865	16 883

(a) Includes migratory.

*Nature of Occupancy*

The details contained in the next table relate only to occupied private dwellings classified as houses or flats:

**Occupied Private Houses and Flats by Nature of Occupancy at Census, 30 June 1971**

Nature of occupancy	Houses		Flats	
	Number	Proportion of total (per cent)	Number	Proportion of total (per cent)
Owner .. ..	71 334	71.77	1 504	17.87
Tenant—Housing Department ..	6 485	6.52	452	5.37
Other .. ..	16 614	16.71	6 032	71.66
Other and not stated .. ..	4 963	4.99	429	5.10
Total .. ..	99 396	100.00	8 417	100.00

*Facilities*

At 30 June 1971, 78.8 per cent of the occupied private houses had television. The corresponding percentage for occupied flats was 65.6. In the next table details of the number of occupied private houses and flats served by electricity and gas are given:

Occupied Private Houses and Flats by Facilities at Census, 30 June 1971

Facilities	Houses		Flats	
	Number	Proportion of total (per cent)	Number	Proportion of total (per cent)
Electricity only .. .. .	91 664	92.22	7 015	83.34
Gas only .. .. .	60	0.06	2	0.02
Electricity and gas .. .. .	6 889	6.93	1 311	15.58
No gas or electricity .. .. .	240	0.24	2	0.02
Not stated .. .. .	543	0.55	87	1.03
Total .. .. .	99 396	100.00	8 417	100.00

*Material of Outer Walls*

The next table classifies occupied private houses and flats by material of their outer walls:

Material of Outer Walls of Occupied Private Houses and Flats at Census, 30 June 1971

Material of outer walls	Houses		Flats	
	Number	Proportion of total (per cent)	Number	Proportion of total (per cent)
Brick (including brick veneer) ..	29 300	29.48	4 919	58.44
Stone or concrete .. .. .	3 255	3.27	1 035	12.30
Wood .. .. .	62 235	62.61	2 269	26.96
Fibro-cement .. .. .	3 460	3.48	159	1.89
Other .. .. .	1 146	1.15	35	0.42
Total .. .. .	99 396	100.00	8 417	100.00

**Intercensal Estimates of Houses and Other Dwellings**

It is not possible to prepare a detailed analysis of dwellings between censuses but intercensal estimates of the number of houses and other dwellings by local government areas are prepared. The base for the estimates is the total number of occupied and unoccupied private houses and flats as recorded at the preceding census. The census figures are then adjusted for: (i) demolitions, destructions by fire, conversions and transfers of houses and other dwellings; and (ii) completions of new houses and other dwellings. Transfer of houses between local government areas is merely a redistribution and does not affect total number of houses for the State. Information about demolitions, conversions and transfers is obtained from local government authorities and the Hydro-Electric Commission. The number of new houses and other dwellings completed is available from the quarterly building construction collection conducted by the Bureau.



The following table shows the distribution of total houses and other dwellings recorded at the 1971 Census and the estimated distribution for other years. Details are also shown of the percentage of houses and other dwellings which were occupied in each local government area at 30 June 1971. Very low occupancy rates are indicators of the high proportion of holiday homes—most of which would not be occupied at 30 June—located in those areas:

**Number of Houses and Other Dwellings at 30 June**

Local government area (statistical division and sub-division in bold type)	Houses and other dwellings				
	1971 Census <i>r</i>		1972 <i>r</i>	1973 <i>r</i>	1974
	Number (a)	Percentage occupied	Estimate (b)	Estimate (b)	Estimate (b)
Hobart (H) .. ..	16 836	94.1	17 103	17 419	17 746
Glenorchy (H) .. ..	11 778	97.5	12 141	12 401	12 627
Clarence (H) .. ..	10 372	92.6	10 816	11 324	11 914
Brighton (H) (S) .. ..	640	95.3	644	789	969
Kingborough (H) (S) .. ..	3 224	92.8	3 361	3 535	3 797
New Norfolk (H) (S) .. ..	2 590	93.0	2 612	2 660	2 702
Sorell (H) (S) .. ..	2 187	50.0	2 230	2 289	2 379
Bothwell (S) .. ..	708	35.9	708	713	715
Bruny (S) .. ..	324	35.0	325	326	334
Esperance (S) .. ..	1 168	81.6	1 186	1 197	1 210
Glamorgan (S) .. ..	686	52.6	695	716	738
Green Ponds (S) .. ..	261	95.8	266	269	277
Hamilton (S) .. ..	1 029	91.4	1 066	1 084	1 086
Huon (S) .. ..	1 380	96.2	1 382	1 385	1 388
Oatlands (S) .. ..	772	84.6	773	778	786
Port Cygnet (S) .. ..	742	78.7	742	749	764
Richmond (S) .. ..	493	94.3	511	518	528
Spring Bay (S) .. ..	610	66.2	652	685	739
Tasman (S) .. ..	628	51.5	642	663	673
<b>HOBART</b> .. ..	56 428	89.8	57 855	59 500	61 372
<b>SOUTHERN</b> .. ..					
Launceston .. ..	11 614	94.5	11 703	11 776	11 851
Beaconsfield .. ..	3 828	82.4	3 938	4 072	4 198
Deloraine .. ..	1 525	91.9	1 545	1 566	1 583
Evandale .. ..	431	95.6	431	436	442
George Town .. ..	1 855	77.3	1 928	1 982	2 045
Lilydale .. ..	2 207	95.8	2 264	2 323	2 363
Longford .. ..	1 610	93.9	1 621	1 638	1 665
St Leonards .. ..	4 494	95.7	4 644	4 819	4 983
Westbury .. ..	1 485	93.9	1 522	1 555	1 628
<b>Tamar</b> .. ..	29 049	91.9	29 596	30 167	30 758
Campbell Town .. ..	547	83.9	546	545	556
Fingal .. ..	1 105	87.3	1 105	1 106	1 111
Flinders .. ..	329	83.3	331	333	335
Portland .. ..	1 036	44.3	1 069	1 090	1 125
Ringarooma .. ..	816	88.0	823	828	840
Ross .. ..	182	90.7	182	184	183
Scottsdale .. ..	1 323	80.6	1 342	1 365	1 400
<b>North Eastern</b> .. ..	5 338	76.9	5 398	5 451	5 550
<b>NORTHERN</b> .. ..	34 387	89.6	34 994	35 618	36 308

Number of Houses and Other Dwellings at 30 June—*continued*

Local government area (statistical division and sub-division in bold type)	Houses and other dwellings				
	1971 Census <i>r</i>		1972 <i>r</i>	1973 <i>r</i>	1974
	Number (a)	Percentage occupied	Estimate (b)	Estimate (b)	Estimate (b)
Burnie .. .. .	5 593	95.3	5 720	5 829	5 919
Circular Head .. .. .	2 444	85.3	2 467	2 491	2 529
Devonport .. .. .	5 876	95.4	6 027	6 237	6 500
Kentish .. .. .	1 573	88.2	1 562	1 502	1 499
King Island .. .. .	755	93.6	764	781	796
Latrobe .. .. .	1 607	85.4	1 642	1 704	1 754
Penguin .. .. .	1 355	95.3	1 394	1 427	1 472
Ulverstone .. .. .	3 306	93.8	3 411	3 517	3 641
Wynyard .. .. .	3 088	90.8	3 193	3 303	3 440
<b>North Western</b> .. .. .	<b>25 597</b>	<b>92.5</b>	<b>26 180</b>	<b>26 791</b>	<b>27 550</b>
Gormanston .. .. .	119	97.5	119	117	114
Queenstown .. .. .	1 289	97.6	1 289	1 290	1 287
Strahan .. .. .	190	64.7	201	205	205
Waratah .. .. .	477	94.1	495	516	515
Zeehan .. .. .	1 108	79.0	1 262	1 274	1 290
<b>Western</b> .. .. .	<b>3 183</b>	<b>88.6</b>	<b>3 366</b>	<b>3 402</b>	<b>3 411</b>
<b>MERSEY-LYELL</b> .. .. .	<b>28 780</b>	<b>92.1</b>	<b>29 546</b>	<b>30 193</b>	<b>30 961</b>
<b>TASMANIA</b> .. .. .	<b>119 595</b>	<b>90.3</b>	<b>122 395</b>	<b>125 311</b>	<b>128 641</b>

NOTE: Symbols above mean: (H) = Hobart Division; (S) = Southern Division; (H) (S) = part of municipality in Hobart Division and remainder in Southern Division.

(a) Comprises only those dwellings classified as private (occupied or unoccupied) houses and other dwellings.

(b) Census figures adjusted for new houses and other dwellings completed, demolished, destroyed by fire, transferred between local government areas, etc.

## BUILDING STATISTICS

## Scope

For statistical purposes, building relates exclusively to the erection of new buildings (including major new additions to existing buildings); construction work such as the building of railways, bridges, earthworks, water storages, piers, wharves, etc. is excluded. Minor additions, alterations, renovations and repairs to buildings are also excluded because of the difficulty of obtaining lists of persons who undertake this work.

When a dwelling is attached to a new building, the whole unit, both in regard to number and value, is classified according to the type of new building (e.g. a new shop and dwelling is classified simply as a shop). Figures for other dwellings include 'home units' but not conversions of existing buildings into flats. Number of 'other dwellings' refers to the number of new individual dwelling units (e.g. one block of flats containing 10 separate flat units would be counted as 10 dwellings).

Details obtained from government authorities on their construction programmes and from building contractors refer to all parts of the State. Details for owner-builders cover only those areas subject to building control by local government authorities; thus some farm buildings are excluded but this does not materially affect the figures.

### Source of Data

The main statistics relate to building approvals and to building operations (commencements, completions, etc.). The data are derived as follows:

*Building Approvals:* These comprise: (i) approvals by local government authorities for the construction of private buildings; (ii) contracts let and day labour projects commenced by governmental authorities; and (iii) private buildings reported by contractors to have been commenced in certain areas of the few rural municipalities where building regulations do not apply to the whole municipality. Details are compiled monthly.

*Building Operations:* Returns are obtained from: (i) building contractors engaged in the erection of new buildings; (ii) owner-builders; and (iii) federal, state, local and semi-government authorities. Statistics are compiled at quarterly intervals.

### Definitions

*Contract-built:* Includes the operations of all building contractors and government authorities which undertake the erection of new buildings.

*Owner-built:* An 'owner-built' house is one actually erected or being erected by the owner, or under the owner's direction, without the services of a contractor who is responsible for the whole job.

*Commenced:* A building is regarded as having been commenced when work on the foundations has begun.

*Completed:* A building is regarded as having been completed when the contractor has fulfilled the terms of the contract.

With both 'completions' and 'commencements' there is some difficulty in maintaining a uniform classification since the definition of an exact point of time in building operations is involved.

*Under Construction:* A building is so classified if it is uncompleted at the end of the period, whether or not work on it was actively proceeding at that date.

*Values:* All values shown exclude the value of land and represent the estimated value of buildings *on completion*. In the case of owner-built dwellings, the owner-builder is required to estimate the value from the cost of the materials and the cost of labour, including his own.

New buildings, including dwellings, with an estimated value on completion of less than \$1 000 for approvals and \$2 000 for construction are excluded from the tabulations.

### Building Approvals

The following table shows details of building approvals; a distinction is made between 'private' and 'government' and the information is dissected to give separate figures for statistical divisions. In 1973-74, 48 per cent of the total value of building approvals was attributed to the Hobart Division, 3 per cent to the Southern Division, 25 per cent to the Northern Division and 24 per cent to the Mersey-Lyell Division.

## Building Approvals, By Statistical Division, 1973-74

Particulars	Hobart	Southern	Northern	Mersey-Lyell	Total Tasmania
NUMBER					
Houses—Private .. ..	1 151	188	679	659	2 677
Government .. ..	356	5	150	143	654
Total .. ..	1 507	193	829	802	3 331
VALUE (\$'000)					
Houses—Private .. ..	21 255	2 045	10 857	10 322	44 479
Government .. ..	4 490	90	1 805	1 607	7 992
Other new buildings (a)—					
Private .. ..	14 647	737	6 994	5 128	27 507
Government .. ..	7 491	194	5 136	7 920	20 742
Alterations and additions—					
Private .. ..	2 127	230	1 278	753	4 388
Government .. ..	150	18	72	70	310
All buildings—Private .. ..	38 030	3 012	19 129	16 203	76 374
Government .. ..	12 131	302	7 013	9 597	29 043
Grand Total	50 161	3 314	26 142	25 800	105 417

(a) Includes other dwellings.

The next table shows the decline in the number of building approvals for houses between 1969-70 and 1971-72 and the substantial increase in house building activity recorded in the following two years.

## Building Approvals, Selected Years

Particulars	1963-64	1969-70	1970-71	1971-72	1972-73	1973-74
NUMBER						
New houses—						
Private .. ..	2 064	2 124	1 969	1 996	2 457	2 677
Government .. ..	584	532	612	488	601	654
Total .. ..	2 648	2 656	2 581	2 484	3 058	3 331
VALUE (\$'000)						
Houses—						
Private .. ..	15 424	22 417	21 333	23 896	33 378	44 479
Government .. ..	3 422	4 214	5 286	4 535	6 077	7 992
Other new buildings (a)—						
Private .. ..	7 240	21 214	24 281	21 218	21 892	27 507
Government .. ..	6 456	11 690	17 092	20 434	29 074	20 742
Alterations and additions—						
Private .. ..	1 696	2 464	2 801	3 408	3 659	4 388
Government .. ..	282	274	253	337	213	310
All buildings—						
Private .. ..	24 360	46 095	48 415	48 522	58 929	76 374
Government .. ..	10 160	16 177	22 631	25 305	35 364	29 043
Grand total ..	34 520	62 272	71 046	73 827	94 293	105 417

(a) Includes other dwellings

**Houses Constructed:** The next table shows details of number and value of houses commenced, completed and under construction:

Construction of Houses

Year	Commenced		Completed		Under construction (a)	
	Number	Value (b)	Number	Value (b)	Number	Value (b)
		\$m		\$m		\$m
1968-69 ..	2 580	25.4	2 704	25.5	1 372	12.9
1969-70 ..	2 682	27.6	2 861	28.3	1 163	11.9
1970-71 ..	2 546	27.0	2 263	24.5	1 393	14.5
1971-72 ..	2 231	25.7	2 261	26.2	1 337	14.5
1972-73 ..	2 795	36.4	2 384	29.6	1 735	22.0
1973-74 ..	3 159	50.0	2 837	42.0	2 016	31.4

(a) At end of year.

(b) When completed.

**Material of Outer Walls:** The following table shows the number of new houses completed and their classification according to the material used in their outer walls. Until 1963-64, wood was the predominant material used for outer wall construction. However, since then there has been a continuous fall in the proportion of wooden walled houses completed; in 1973-74, brick veneer houses accounted for 84 per cent of all houses completed.

Number of Houses Completed Classified by Material of Outer Walls

Material of outer walls	1963-64	1969-70	1970-71	1971-72	1972-73	1973-74
Brick, concrete, etc.—						
Solid .. .. .	178	173	93	80	75	128
Veneer .. .. .	920	1 719	1 618	1 701	1 943	2 390
Wood (weatherboard, etc.) ..	1 337	577	350	196	204	161
Asbestos cement .. .. .	76	137	121	103	125	126
Other .. .. .	..	255	81	181	37	32
Total .. .. .	2 511	2 861	2 263	2 261	2 384	2 837

**Government Construction of Houses:** The post-war era was notable for the entry of the State Government into the housing field on a large scale; in November 1945, the Australian Government entered into an agreement with the states whereby it would provide finance for housing projects to be built by the state governments. Under the agreement, Tasmania received \$5 670 000 which it repaid on withdrawing from the scheme in August 1950. The Tasmanian Government nevertheless continued to build houses using the resources available from its own Loan Fund. In 1956, the State Government entered into a new agreement with the Australian Government, an arrangement renewed with minor modifications in 1961 and 1966. This method of allocating funds to the states ceased at 30 June 1971. Tasmania's aggregate advances under the scheme to 30 June 1971 were \$89 477 000. For 1971-72 and 1972-73 funds for State housing were provided as a part of the State's approved loan raisings (i.e. loans raised for housing were credited to Loan Fund and expenditure was made from Loan Fund). Tasmania's Loan Fund allocations for housing were: 1971-72, \$8 300 000 (*Homes Act 1935*, \$5 810 000; and advances through the Agricultural Bank for private home construction, \$2 490 000); and 1972-73, \$9 050 000 (*Homes Act 1935*, \$6 500 000; and advances through the Agricultural Bank \$2 550 000). However, at the June 1973 Premiers' conference the question of allocation of funds for

state housing was again discussed and a new Federal-State Housing Agreement was proposed which provided for the states to receive advances for welfare housing during the five years 1973-74 to 1977-78; these advances are in addition to the states' loan fund borrowing programmes. (In effect the pre 1971-72 situation has been restored.) Tasmania's allocation for 1974-75 under the new Housing Agreement was \$18 220 000.

The following table shows, for Tasmania, the number of houses completed, for a recent ten-year period and distinguishes between those built for government authorities (all types) and those built for private persons:

Number of Houses Completed For Government Authorities and Private Persons

Year	For government authorities	For private persons	Total	Year	For government authorities	For private persons	Total
1964-65 ..	579	2 000	2 579	1969-70 ..	683	2 178	2 861
1965-66 ..	557	1 703	2 260	1970-71 ..	627	1 636	2 263
1966-67 ..	627	2 138	2 765	1971-72 ..	466	1 795	2 261
1967-68 ..	737	2 594	3 331	1972-73 ..	542	1 842	2 384
1968-69 ..	735	1 969	2 704	1973-74 ..	587	2 250	2 837

The principal construction authority in Tasmania is the State Housing Department but 'houses built for government authorities' includes construction by, or for, other State and Australian Government departments, instrumentalities, etc.

#### Construction of Houses and Other Dwellings

The figures for the more recent years show a high level of dwellings other than houses (individual units) erected. In 1973-74 other dwellings comprised 20 per cent of the total number of dwellings completed.

In the following tables, details are given of completions of houses and other dwellings:

Houses and Other Dwellings Completed

Particulars	1963-64	1969-70	1970-71	1971-72	1972-73	1973-74
NUMBER						
Houses—						
Government ownership—						
Contract-built .. .. .	271	370	307	243	280	290
Day labour .. .. .	283	313	320	223	262	297
Private ownership—						
Contract-built .. .. .	1 061	1 279	1 092	1 198	1 117	1 269
Owner-built .. .. .	896	899	544	597	725	981
Total houses .. .. .	2 511	2 861	2 263	2 261	2 384	2 837
Other dwellings (individual units) (a) ..	164	502	667	767	781	705
Total houses and other dwellings	2 675	3 363	2 930	3 028	3 165	3 542
VALUE (\$'000)						
Houses .. .. .	17 332	28 283	24 459	26 165	29 648	41 957
Other dwellings (individual units) (a) ..	738	3 887	4 816	5 534	6 542	6 649

(a) Individual dwelling units; conversions of existing buildings to dwellings are excluded.

## Number of Houses and Other Dwellings Completed

Area	1972-73			1973-74		
	Houses	Other dwellings	Total	Houses	Other dwellings	Total
STATISTICAL DIVISIONS AND SUB-DIVISIONS						
Hobart .. .. .	1 045	503	1 548	1 289	507	1 796
Southern .. .. .	162	6	168	177	2	179
Northern—						
Tamar .. .. .	468	168	636	565	77	642
North Eastern .. .. .	57	7	64	88	18	106
Total .. .. .	525	175	700	653	95	748
Mersey-Lyell—						
North Western .. .. .	607	95	702	688	101	789
Western .. .. .	45	2	47	30	..	30
Total .. .. .	652	97	749	718	101	819
Total Tasmania ..	2 384	781	3 165	2 837	705	3 542
URBAN AREAS						
Urban Hobart .. .. .	596	485	1 081	694	470	1 164
Urban Launceston .. .. .	308	140	448	361	56	417

## Construction of All New Buildings

The previous tables in this section have been concerned with the construction of new dwellings. In the five years ended 30 June 1974 the value of houses and other dwellings completed has approximated half of the total value of all new buildings completed in each year. The next table shows the value of all buildings completed according to type; houses and other dwellings are included to allow comparison.

Value of All Buildings Completed: Classified According to Type  
(\$'000)

Type of building	1963-64	1969-70	1970-71	1971-72	1972-73	1973-74
Houses (a) .. .. .	17 332	28 283	24 459	26 165	29 648	41 957
Other dwellings .. .. .	738	3 887	4 816	5 534	6 542	6 649
Hotels, etc. .. .. .	370	2 107	2 609	2 464	r 7 751	4 488
Shops .. .. .	944	2 348	2 097	2 515	r 2,470	3 980
Factories .. .. .	2 844	6 322	7 451	4 124	r 4 447	3 820
Offices .. .. .	2 210	5 291	2 905	6 746	7 287	8 381
Other business premises .. .. .	1 866	1 753	4 330	2 854	r 2 038	2 398
Education .. .. .	3 454	6 469	4 259	9 240	10 654	13 209
Religion .. .. .	238	576	377	162	289	147
Health .. .. .	2 060	4 965	1 921	6 668	4 208	848
Entertainment and recreation .. .. .	886	925	1 264	1 006	r 1 802	1 322
Miscellaneous .. .. .	1 034	3 527	3 197	2 238	969	1 747
Total all buildings ..	33 976	66 452	59 684	69 717	r 78 105	88 946

(a) Includes estimated value of owner-built houses.



The following table gives details of the total value of all buildings commenced, completed and under construction. The items included under 'all buildings' are specified in the previous table.

Value (When Completed) of All Buildings (a)  
(\$m)

Year	Com- menced	Com- pleted	Under construc- tion (b)	Year	Com- menced	Com- pleted	Under construc- tion (b)
1964-65 ..	42.0	37.7	33.5	1969-70 ..	62.1	66.5	51.0
1965-66 ..	43.8	39.7	37.4	1970-71 ..	70.2	59.7	63.5
1966-67 ..	62.1	48.2	51.3	1971-72 ..	64.3	69.7	61.6
1967-68 ..	63.2	61.9	52.5	1972-73 ..	90.6	78.1	76.5
1968-69 ..	56.2	56.9	51.9	1973-74 ..	107.1	88.9	97.4

(a) Includes estimated value of owner-built houses.

(b) At end of period.

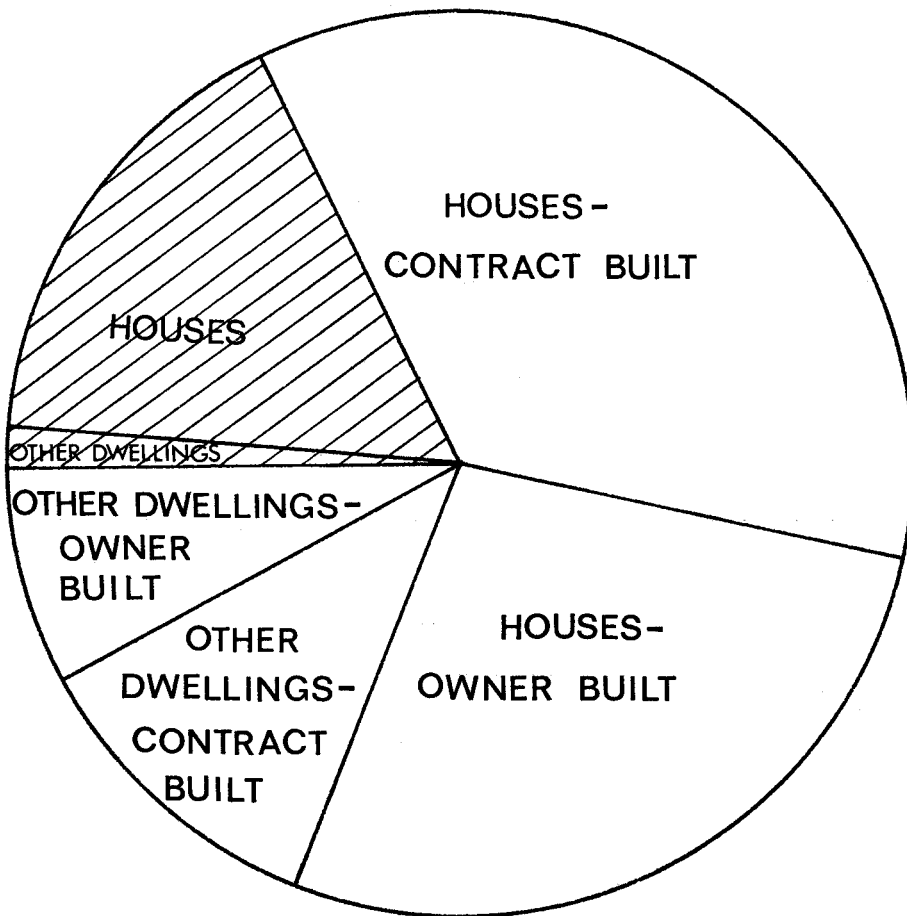
The following table shows the distribution of the value of buildings completed according to type:

Value of Buildings Completed, By Type of Building, 1973-74  
(\$'000)

Area	Houses	Other dwellings	Hotels, etc.	Office buildings	Education buildings	Other buildings
STATISTICAL DIVISIONS AND SUB-DIVISIONS						
Hobart .. .. .	20 295	5 029	2 395	6 164	8 429	6 416
Southern .. .. .	2 069	26	115	101	231	394
Northern—						
Tamar .. .. .	8 507	675	1 363	1 022	1 251	3 117
North Eastern .. .. .	960	150	..	106	430	394
Total .. .. .	9 467	826	1 363	1 128	1 681	3 511
Mersey-Lyell—						
North Western .. .. .	9 724	768	240	933	2 666	3 709
Western .. .. .	402	..	375	56	202	234
Total .. .. .	10 126	768	615	989	2 868	3 942
Total Tasmania ..	41 957	6 649	4 488	8 381	13 209	14 262
URBAN AREAS						
Urban Hobart .. .. .	12 227	4 633	2 298	6 164	7 789	5 682
Urban Launceston .. .. .	5 614	542	1 269	933	540	1 504

The following pie chart shows diagrammatically the proportions of dwellings completed classified according to type of ownership and type of dwelling for 1973-74. The graphs show house commencements, classified according to ownership, over a 10 year period.

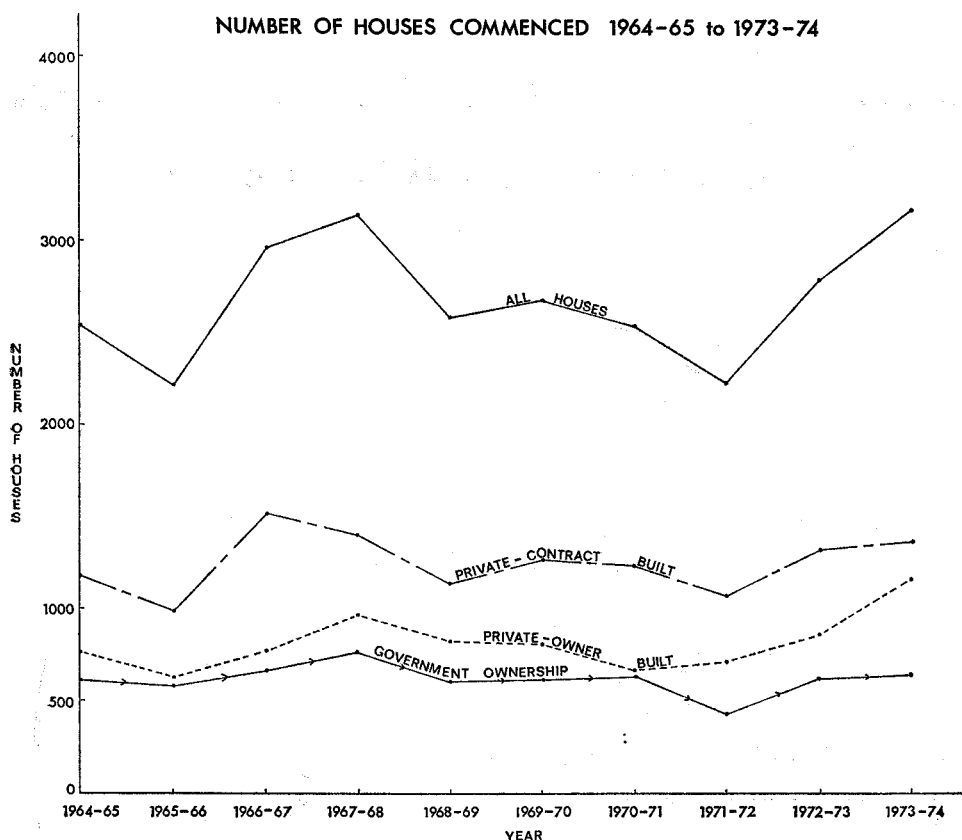
# DWELLINGS COMPLETED 1973-74 (Proportion of Total Number)



GOVERNMENT  
OWNERSHIP



PRIVATE  
OWNERSHIP



## FINANCIAL ASSISTANCE FOR HOUSING

### The State Housing Department

#### *General*

The Housing Department was established in July 1953 as a separate authority to administer that portion of the *Homes Act* 1935 which relates to the purchase and development of land for housing, and the erection of homes for rental and sale. Funds for these purposes, up to 30 June 1971, were made available under the Federal-State Housing Agreement; allocations of loan funds under the agreement were: (i) in addition to loan raisings credited to State Loan Fund; and (ii) not part of State public debt. For 1971-72 and 1972-73 loans for State housing were credited to State Loan Fund and formed part of public debt. However, for 1973-74 the pre 1971-72 situation was restored when a new Federal-State Housing Agreement became operative. In addition to providing finance for the purchase and development of land and construction of houses, the new Agreement also provides finance for the purchase, upgrading and renovating of existing dwellings and places certain restrictions on the allocation of homes constructed from Agreement funds. The Department uses both day labour and private contractors and has its own factory for timber storage, milling and joinery manufacture in addition to plumbing and electrical workshops, etc. Most dwellings constructed are now three-bedroom brick veneer units, roofed with tiles or corrugated iron. Flats for elderly persons, multi-unit flats and villa units have also been constructed.

*Departmental Construction of Dwellings*

During 1973-74, 582 dwellings (539 houses and 43 elderly persons' units) were completed. The following table shows the aggregate of dwelling units produced by the Housing Department (and by an earlier State housing construction authority) since 1944:

*Aggregate of Dwellings Constructed by State Housing Department From 1944 to 30 June 1974 (a)*

Type of dwelling	Bed-sitting room	One bedroom	Two bedroom	Three bedroom	Total
Single unit—Timber .. ..	..	..	568	9 256	9 824
Other material .. ..	..	..	64	3 538	3 602
Elderly persons' flatettes ..	385	177	..	..	562
Maisonettes .. ..	..	..	12	10	22
Multi-unit flats (individual units) .. ..	..	125	157	14	296
Villa flats .. ..	..	..	118	12	130
Total dwelling units ..	385	302	919	12 830	14 436

(a) Construction to 30 June 1953 undertaken by Housing Division of Agricultural Bank of Tasmania; subsequent construction by State Housing Department.

*Dwellings for Rental*

Flats, maisonettes and elderly persons' homes are for rental only. Houses may be occupied on either a rental or purchase contract basis. There is no actual income limit for eligibility to rent homes built prior to January 1974, but families on higher incomes may be expected to purchase. The 1973 Agreement, however, does provide certain income limits for eligibility where homes financed from the Agreement are concerned. It also stipulates that, in the case of Tasmania, 50 per cent of the homes built from the advances in the year commencing 1 January 1974 shall be rented, 60 per cent in the year commencing 1 January 1975, and 70 per cent for the remaining three years of the Agreement. The weekly rental of a newly erected three-bedroom house in the Hobart metropolitan area approximated \$27.00 in the March quarter 1975. In all cases where the occupiers' incomes are insufficient to enable them to afford the full economic rental, rebates may be provided. Rebates are graduated according to the incomes of the occupiers.

*Dwellings for Sale*

Sales are made on a no-deposit purchase contract basis with repayments over a maximum term of 53 years. Homes financed under the 1973 Agreement may be allotted on a purchase contract basis only to those applicants who qualify within a means test. When the agreed purchase price and other charges have been paid ownership of the property is transferred from the Department to the purchaser. Purchasers may sell their homes in certain circumstances. The aggregate number of purchase contracts less surrenders entered into by 30 June 1974 was 8 093. The sale price, excluding land, of a new three-bedroom Department house in the Hobart metropolitan area was approximately \$17 400 in the March quarter 1975.

Amounts outstanding in respect of loans made by the Housing Department by way of purchase contracts are shown in the following table:

*Housing Department: Purchase Contracts at 30 June*

Loans outstanding	1969	1970	1971	1972	1973	1974
Number .. ..	7 099	7 434	7 770	8 001	8 123	8 093
Value .. .. \$'000	48 940	52 199	55 892	58 740	60 948	62 354

The interest rate at 1 January 1975 was 5.75 per cent. To be eligible for housing assistance an applicant must satisfy the Department that he is in need of such assistance. Date of application, number of dependants, income and existing accommodation are considered in determining priorities for applicants.

### **Agricultural Bank of Tasmania—Advances to Homebuilders**

#### *Housing Function*

The Agricultural Bank, as an approved institution under the Federal-State Housing Agreement, receives part of the funds made available to make advances to home builders. To be eligible for a loan, an applicant, whose income is subject to a needs test, must be married or about to be married or have dependants for whom it is necessary to provide a home. The maximum amount of an advance is \$15 000 for all types of houses, provided that the total advance does not exceed 90 per cent of the Bank's valuation of land and dwelling cost. Advances are repayable by equated instalments over a period of up to 30 years. Limited funds can be made available without application of a needs test.

The following table shows details for recent years:

**Agricultural Bank: Advances for Housing (a)**

Particulars	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
Advances approved—						
Number .. ..	338	274	322	291	317	490
Value .. .. \$'000	2 708	2 250	2 840	2 571	3 018	5 480
Advances outstanding (b)						
\$'000	17 697	19 184	20 939	22 187	23 219	25 608

(a) Excludes advances to building societies.

(b) At end of period.

The Agricultural Bank also acts as agent for the State in the transmission of advances under the Federal-State Housing Agreement to the co-operative building societies; details of such advances and of the building societies appear in chapter 12, 'Private Finance'.

### **The Australian Department of Housing and Construction**

#### *General*

The Department has four main functions: (i) to assist certain ex-servicemen to obtain housing with finance made available on a term of up to 45 years at an interest rate of 3¾ per cent; (ii) to administer the Homes Savings Grant Scheme; (iii) to advise the Federal Minister on the Federal-State Housing Agreements; and (iv) to advise on the administration of the Housing Loans Insurance Scheme.

#### *Defence Service Homes Loans*

Broadly, to be eligible for a loan, an ex-serviceman must have dependants, and must have volunteered for, or had, overseas service. Also, he must not be the owner of a home at the time of seeking a loan. The following table shows details of Defence Service Homes activities in the provision of finance for Tasmanian housing. Transfers of loans (and houses) between borrowers are not shown as expenditure, nor are details given of additional loans advanced for alterations, etc. to homes already subject to Defence Service Homes finance.

## Defence Service Homes Operations: Homes Financed in Tasmania

Year	Loan applications approved (a)	Homes financed			Expenditure
		Homes purchased (b)	Homes built	Mortgages taken-over (c)	
	no.	no.	no.	no.	\$'000
1967-68 .. ..	187	108	15	47	1 195
1968-69 .. ..	180	123	13	41	1 350
1969-70 .. ..	181	127	6	32	1 300
1970-71 .. ..	217	133	9	49	1 530
1971-72 .. ..	221	144	16	41	1 670
1972-73 .. ..	203	153	17	47	2 050
1973-74 .. ..	301	224	7	48	3 200

(a) Loan applications *approved* are not necessarily paid out in the same year. A transfer from one borrower and a resale to another is included as a loan approved but not included elsewhere.

(b) New or existing properties not previously subject to Defence Service Homes finance.

(c) Mortgages, raised by individuals to build homes, taken over by Defence Service Homes on satisfactory completion of the home.

*Homes Savings Grant Scheme*

Under the Federal *Homes Savings Grant Act* 1965-72, a grant is payable to eligible persons who have accumulated savings, over a period of at least three years, towards the purchase of their first home. In September 1972 conditions of the scheme were liberalised and the maximum grant increased to \$750.

In the 1973-74 Budget the Australian Government announced its intention to end the current homes savings grant scheme and introduce a scheme of tax deductibility of mortgage interest to have effect from 1 July 1974. Home savings grants are to be continued for homes contracted to be bought or built, or to be commenced by an owner-builder, on or before 31 December 1976, by persons who had already commenced to save by 21 August 1973.

The following table gives details for recent years of grants made under the scheme:

## Home Savings Grants in Tasmania

Year	Grants approved for—			Grants made—	
	Home purchase	Contractor construction	Owner construction	Number	Value
	no.	no.	no.		\$'000
1967-68 .. ..	458	205	121	784	305
1968-69 .. ..	442	212	101	755	300
1969-70 .. ..	432	208	76	716	297
1970-71 .. ..	638	264	101	947	370
1971-72 .. ..	712	204	86	1 047	442
1972-73 .. ..	1 109	256	86	1 446	710
1973-74 .. ..	1 059	252	99	1 405	822

*Housing Loans Insurance Corporation*

The Housing Loans Insurance Corporation was established by the *Housing Loans Insurance Act* 1966 to administer the Australian Government Housing Loans Insurance Scheme under which approved lenders may be insured against losses arising from the making of housing loans. The Corporation consists of a Chairman

(who is also Managing Director) and a Deputy Chairman, who are full-time members, and three part-time members, all of whom are appointed by the Governor-General.

The main purpose of the Housing Loans Insurance Scheme is to assist people to borrow as a single loan, at a reasonable rate of interest, the money they need and can afford to repay to obtain a home suited to their requirements.

To encourage lenders to make high ratio loans, the Corporation may insure a loan of up to \$40 000. The maximum loan to valuation ratio is: (i) 95 per cent where the security is a house or a unit; or (ii) for loans in respect of two units of accommodation 90 per cent.

A 'once and for all' premium is charged by the Corporation at the time the loan is made. The premium is payable by the borrower but lenders may agree to add it to the amount of the loan for repayment by the borrower over the period of the loan. On loans comprising 94 and 95 per cent of the valuation of a home the premium is 1.4 per cent of the amount of the loan. On loans less than 94 per cent of valuation, the premium falls progressively down to 0.25 per cent on loans of less than 76 per cent of valuation.

The Corporation will insure a loan made to enable a borrower who is to occupy the dwelling to buy or build a house, to buy a home unit, or to discharge an existing mortgage. A loan for a dwelling consisting of two units of accommodation is insurable if one of the units is to be occupied by the borrower. Loans for alterations and extensions and loans to meet expenses of providing or improving lighting, sewerage, drainage, fences, roads, etc. are also insurable. In addition to loans secured by a registered first mortgage, there is provision for the insurance of second mortgage loans and cover is available for either full term, fixed term or five year loans.

An insured loan may be made only by an approved lender. Approved lenders are appointed by the Corporation from within approved classes of lenders specified by the Federal Minister for Housing. Approved classes include banks, building societies, friendly societies, mortgage management companies, solicitors, credit unions and trustees of superannuation funds.

The Corporation commenced operations in November 1965 and to May 1975 had insured loans in Tasmania totalling \$92m.

The following table shows, for a three year period, the number of loans insured, their purpose and amount:

**Housing Loans Insurance Corporation**  
**Loans Insured in Tasmania**

Purpose of loan	1971-72		1972-73		1973-74	
	Number	\$'000	Number	\$'000	Number	\$'000
Housing—						
Building a new house ..	117	1 296	137	1 725	110	1 645
Purchase of—						
New house .. .. .	123	1 365	160	2 114	169	2 382
Established house ..	1 047	9 137	1 416	14 359	1 082	12 405
Discharge of mortgage ..	42	386	58	619	33	389
Home units .. .. .	17	152	28	316	25	328
Other .. .. .	5	53	20	312	10	95
<b>Total .. .. .</b>	<b>1 351</b>	<b>12 389</b>	<b>1 819</b>	<b>19 445</b>	<b>1 429</b>	<b>17 244</b>



## Chapter 14

### EDUCATION AND CULTURAL ACTIVITIES

#### SCHOOL EDUCATION

##### Introduction

In 1869 Tasmania became the first Colony in the British Empire to make education compulsory. The ages for obligatory attendance at school were progressively widened: in 1898 school attendance was made obligatory between the ages of seven and 13 years; in 1912 between six and 14 years; and in 1946 Tasmania became the only Australian state to make attendance compulsory up to the age of 16, the starting age being six.

Education in Tasmania is now provided at primary, secondary and tertiary levels by government institutions and to secondary level by non-government schools.

A period of 82 years in which the State accepted no financial responsibility for non-government education ended in 1967 when amendments to the *Education Act 1932* allowed government grants to independent schools. The assistance is paid on a capitation basis and is dependent upon the level of schooling of the pupil.

The task of Tasmanian educational authorities, as in other Australian states in the post-war period, has been to provide more schools, more teachers and better facilities; the principal factors exerting pressure have been: (i) a rapidly growing school population; (ii) a change in attitude resulting in increased demand for secondary and tertiary education; and (iii) community acceptance in general of the need for better education. A feature of recent years has been the acceptance of greater financial responsibility by the Australian Government in a field which was once exclusively the concern of the State.

The remainder of this section on school education covers the following:

- (i) the State (or Government) school system;
- (ii) the non-Government (or independent) schools;
- (iii) teachers and teacher training;
- (iv) examinations and Schools Board moderation procedures; and
- (v) functions of the Education Department relating to equipment, libraries, etc.

##### Schools, Government and Non-Government

In 1946 the Tasmanian Government and non-government systems of education were reorganised to provide a three, four or five-year post-primary course. (The pre-war system of secondary education had comprised two stages, a three-year course followed by a two-year course; with a leaving age of 14, and with *selective entry* to government high schools, the proportion of pre-war pupils taking secondary education was very low.)

The dual nature of educational responsibility in Tasmania and the numbers of pupils in both government and non-government schools, in primary and secondary grades, are shown in the following table:

**Government and Non-Government Schools**  
**Pupils Enrolled at 1 August According to Grade of Education**  
**(Number)**

Particulars	1970	1971	1972	1973	1974
Government schools—					
Primary grades (a) .. .. .	51 677	51 361	50 584	49 845	49 515
Secondary grades .. .. .	26 895	27 888	28 541	28 935	29 347
Special (b) .. .. .	813	843	832	925	973
Total .. .. .	79 385	80 092	79 957	79 705	79 835
Non-government schools—					
Primary grades .. .. .	8 293	8 028	7 815	7 882	7 973
Secondary grades .. .. .	6 302	6 361	6 266	6 342	6 426
Special .. .. .	28	26	17	13	8
Total .. .. .	14 623	14 415	14 098	14 237	14 407
Total all schools .. .. .	94 008	94 507	94 055	93 942	94 242

(a) Includes kindergarten classes; see text below.

(b) Includes pupils in special classes attached to ordinary schools.

### *Kindergarten Classes and Preparatory Classes*

In this chapter, the term *kindergarten* is used to describe all pre-school classes, irrespective of whether they operate attached to other schools or whether they operate as separate entities. Separate figures are shown in a later table for enrolments in kindergartens. *Preparatory* classes, commenced in 1974, are included in 'Primary grades'.

## **The State (or Government) School System**

### *Introduction*

The present system had its genesis in the *Education Act* 1885, under which a department was established, headed by a Director of Education, responsible to a Minister. Under the Act, aid to non-government schools was abolished and only in 1967 was this principle re-introduced (with a system of capitation subsidies).

Education is compulsory between the ages of six and 16 years although, in some cases, special exemptions may be obtained. With two exceptions, all schools are co-educational. Education is secular and free; parents buy their children's books, paints, instruments, etc. Pupils' transport is either provided by the Department or subsidised where daily travel costs on public transport exceed 14 cents. The arrangement of transport has been important in the organisation of district and high schools where educational facilities are concentrated and centralised, thereby eliminating many of the smaller country schools.

### *Present Organisation*

Under a Director-General operate three Directors designated: (i) primary; (ii) secondary; and (iii) technical. Regional directors and superintendents are responsible for specific activities and districts; supervisors assist in administration and provide services to schools. Specialist sections deal with curricula, teaching aids, science equipment, speech education, music, physical education, guidance and welfare, library services, educational planning and research, etc.

*Expenditure on Education*

The following table shows educational expenditure by the State Government from the public account; expenditure from Trust Funds is made by the State acting mainly as agent for the Australian Government.

**Expenditure on Education from Consolidated Revenue, Loan Fund and Trust Funds  
(\$'000)**

Particulars	1969-70 <sub>r</sub>	1970-71 <sub>r</sub>	1971-72 <sub>r</sub>	1972-73 <sub>r</sub>	1973-74
From Consolidated Revenue—					
General administration, regulation and research .. .. .	1 481	1 871	1 466	1 672	2 091
Transportation of students .. .. .	1 894	1 995	2 252	2 459	2 818
Primary and secondary .. .. .	18 871	23 320	26 620	30 520	38 351
Technical .. .. .	1 215	1 425	1 744	2 272	3 060
University .. .. .	2 038	2 260	2 664	3 312	2 067
Other higher education .. .. .	2 836	3 759	4 923	6 384	4 871
Special schools for handicapped children .. .. .	325	409	443	530	696
Adult education .. .. .	160	186	187	210	293
<b>Total .. .. .</b>	<b>28 819</b>	<b>35 225</b>	<b>40 299</b>	<b>47 358</b>	<b>54 246</b>
From Loan Fund (a)—					
Primary and secondary .. .. .	2 293	2 474	4 764	5 223	5 932
Technical .. .. .	155	—20	114	612	419
University .. .. .	1 216	172	338	1 260	775
Other higher education .. .. .	294	659	1 179	2 021	1 234
Adult education .. .. .	..	..	..	47	57
Other .. .. .	1 508	2 406	2 013	2 638	3 397
<b>Total .. .. .</b>	<b>5 466</b>	<b>5 691</b>	<b>8 409</b>	<b>11 802</b>	<b>11 814</b>
From Trust Funds .. .. .	3 355	3 894	4 769	6 227	13 001
<b>Grand total .. .. .</b>	<b>37 640</b>	<b>44 810</b>	<b>53 477</b>	<b>65 387</b>	<b>79 061</b>

(a) *Net expenditure.*

It should be noted that the preceding table includes amounts voted under other departmental heads for the provision of educational facilities, principally rental and tenancy charges and water, sewerage and other rates paid by the Lands Department.

*Enrolment*

Enrolments in government schools in the last five years were:

**Government Schools  
Number of Pupils at 1 August**

Pupils	1970	1971	1972	1973	1974
Boys .. .. .	41 319	41 783	41 654	41 318	41 299
Girls .. .. .	38 066	38 309	38 303	38 387	38 536
<b>Total .. .. .</b>	<b>79 385</b>	<b>80 092</b>	<b>79 957</b>	<b>79 705</b>	<b>79 835</b>

*Age of Pupils in Each Class*

The following table summarises the system of government schooling in Tasmania showing the average ages of pupils in each class and the type of certificate issued for final year examinations:

**Government Schools**  
**Average Ages of Pupils, Primary and Secondary, in Each Class, and Certificates Issued**

Primary classes				Secondary classes								
Grade				Mean age at 1.8.74		Grade				Mean age at 1.8.74		Certificate issued
				Years	Months					Years	Months	
Kindergartens—												
Separate .. ..				4	11	7 ..	12	10			..	
Attached .. ..				5	4	8 ..	13	10			..	
Preparatory .. ..				5	9	9 ..	14	9			Preliminary School Cer-	
1 .. ..				6	8						tificate	
2 .. ..				7	9	10 ..	15	8			School Certificate	
3 .. ..				8	9	11 (a)	16	10	}		Higher School Cer-	
4 .. ..				9	9	12 (a)	17	9		tificate		
5 .. ..				10	10							
6 .. ..				11	10							

(a) Secondary grades eleven and twelve indicate pupils in their first or second year at Higher School Certificate level.

### Number of Government Schools

The following table shows the number of government schools in Tasmania:

#### Number of Government Schools at 1 August

Type of school	1969	1970	1971	1972	1973	1974
Kindergartens (separate) .. ..	58	45	44	41	39	34
Primary (a) .. ..	140	143	144	144	148	155
Primary with secondary classes .. ..	9	8	7	8	2	1
Special (b) .. ..	15	15	16	16	17	18
Area (c) .. ..	35	35	35	34	..	..
District (c) .. ..	8	6	6	6	39	36
High .. ..	27	28	28	30	30	30
Matriculation colleges .. ..	3	3	3	3	5	5
<b>Total .. ..</b>	<b>295</b>	<b>283</b>	<b>283</b>	<b>282</b>	<b>280</b>	<b>279</b>

(a) Many have kindergartens attached.

(b) Includes the correspondence school.

(c) These schools provide both primary and secondary facilities. From 1973 'area schools' became 'district schools'.

### Kindergarten Education

At present, there is a mixture of pre-school facilities, some being provided at primary schools and others constituting separate entities. Pupils at this level of education are shown in the next table:

#### Enrolments in Kindergartens at 1 August

Particulars	1970	1971	1972	1973	1974
Kindergartens—					
Separate .. ..	1 938	1 928	1 745	1 714	1 449
Attached .. ..	4 217	4 502	4 955	5 277	4 538
<b>Total (a) .. ..</b>	<b>6 155</b>	<b>6 430</b>	<b>6 700</b>	<b>6 991</b>	<b>(b) 5 987</b>

(a) Included in other tables as part of total government school enrolments.

(b) See text that follows for explanation of decrease.

Until 1969, pre-schools were established on the initiative of groups of parents, the Department providing the cost of the building but eventually recovering half its outlay from the parents. Commencing in 1969, all new facilities for pre-school education are being provided in kindergartens attached to primary schools.

### State Primary Schools

*General:* As mentioned earlier, a preparatory grade was introduced to some schools in 1974. This extra grade will be provided in all primary schools as staffing and accommodation allow. Thus, in future there will be seven primary grades plus kindergarten. It is expected that the approximate age of entry will, within the next few years, become: four years to kindergarten, five years to preparatory and six years to grade 1, at 1 January of each year.

*Primary Classes:* Only one government primary school has secondary classes as well. Most primary schools have six grades, a kindergarten and, increasingly, a preparatory class. Generally parents may select the school they prefer for their children without restriction but, in some areas, zoning directs children to attend a particular primary school.

In addition 36 district schools have primary grades and draw many pupils from outlying localities previously served by one or two-teacher schools. Free transport has made this possible and has led to a reduction in the total number of primary schools.

*Primary Pupils:* The table below shows the age and number of pupils receiving primary education in Tasmanian Government schools:

Age and Number of Pupils Receiving Government Primary Education (a) at 1 August

Age last birthday (years)					1970	1971	1972	1973	1974
Under 5	..	..	..	..	1 806	2 053	2 012	2 054	1 888
5	..	..	..	..	4 806	4 781	4 923	5 418	6 034
6	..	..	..	..	6 954	6 534	6 264	6 219	6 511
7	..	..	..	..	7 174	7 058	6 549	6 341	6 289
8	..	..	..	..	7 449	7 127	7 019	6 502	6 287
9	..	..	..	..	7 498	7 394	7 089	7 098	6 647
10	..	..	..	..	7 283	7 518	7 258	7 036	6 939
11	..	..	..	..	6 620	6 826	7 225	6 972	6 724
12	..	..	..	..	1 924	1 889	2 104	2 048	2 049
13	..	..	..	..	142	160	124	140	124
14	..	..	..	..	12	14	9	11	13
15 and over	..	..	..	..	9	7	8	6	10
Total—Boys .. ..					26 800	26 652	26 288	24 797	25 613
Girls .. ..					24 877	24 709	24 296	25 048	23 902
Pupils .. ..					51 677	51 361	50 584	49 845	49 515

(a) Includes kindergarten classes.

*Primary Curriculum:* The primary school curriculum has undergone considerable change in recent years both in teaching methods and subject matter. The subjects are English (including reading, spelling, oral and written work), social science, arithmetic, science, art, music, arts and crafts, religious and moral education, and health and physical education.

*Pupil Grouping:* Promotion within the schools is generally by age at the beginning of the school year, with accelerated progress or repetition of classes at the principal's discretion; grouping may be by ability, where numbers allow, with each child being able to work with his equals in each subject, regardless of age.

Differential teaching adapts the school program to meet the widely varying needs and abilities of pupils. The skill subjects of reading, writing, spelling and arithmetic are particularly suited to this method of teaching, testing and grading. The increasing provision of specially designed open plan areas housing two, three or four classes in the space available, provides opportunity for teachers to work as a team and assist in the treatment of individual differences in pupils. Some schools have experimented widely with *non-grading*, a method of organisation which allows pupils in certain subjects to work at their own level of competence. A few other schools have adopted this organisation in one or two subjects only.

### *Special Schools and Special Classes*

The Department has special schools, and also special classes in ordinary schools, for children who are physically handicapped, mentally retarded, or otherwise unable to profit from ordinary class teaching. Instruction varies according to the handicap; where it is physical, the main need is to maintain normal or near-normal individual programs. Many pupils eventually can be transferred to ordinary schools into the grades appropriate to their ages.

Schools and classes for slow learners and mentally retarded children follow the curricula for kindergartens and primary schools but no attempt is made to reach examination standards. The teaching of activities and basic skills is the main concern in these classes which are also to be found in some primary and high schools.

### *Government Secondary Schools*

Almost all children attend secondary classes, starting at an age varying from 11½ to 13 years. If a choice has to be made between a high and a district school a transfer committee considers the matter, taking note of performance in grade 6. High schools are non-selective, comprehensive and, with two exceptions, co-educational.

The differences between the types of secondary schools are related mainly to the level of the final examination or certificate available to students. The levels are: School Certificate endorsed Preliminary (three-year course); School Certificate (four-year course); Higher School Certificate (five or six-year course). The School and Higher School Certificates replaced the Secondary Schools, Schools Board and Matriculation Certificates which were last awarded in 1968.

The essence of the present system is: (i) all assessment and certification come under the authority of the Schools Board of Tasmania; (ii) two certificates only are issued; and (iii) the certificates record achievement in individual subjects. The certificates are:

*The School Certificate:* Awarded in subjects for three and four-year courses; basis of award is by internal assessment and recommendation by schools.

*The Higher School Certificate:* Awarded in subjects studied in fifth or sixth secondary year; basis of award is an external examination conducted by the Board (not the University as for matriculation in the past). The University is still free to determine what constitutes qualification for university entrance and can nominate the subjects and the levels of achievement at the Higher School Certificate examination necessary for entry; the scope of the examination has been enlarged to cover subjects not designed primarily for purposes of university entrance.

A more detailed account of the examinations and procedures adopted for awarding the School and Higher School Certificates is contained in a later section, 'Examinations'.

The following table shows the age and number of students in Tasmanian government secondary schools:

**Pupils Receiving Government Secondary Education at 1 August, by Age**

Age last birthday (years)				1970	1971	1972	1973	1974
11	..	..	..	(a) 518	(a) 420	389	261	246
12	..	..	..	4 756	4 864	4 837	4 902	4 943
13	..	..	..	6 262	6 640	6 682	6 924	7 137
14	..	..	..	6 503	6 381	6 681	6 787	6 848
15	..	..	..	5 107	5 540	5 451	5 640	5 792
16	..	..	..	2 408	2 522	2 800	2 645	2 671
17	..	..	..	1 047	1 130	1 285	1 284	1 231
18 and over	..	..	..	294	391	416	492	479
Total—Boys .. ..				14 022	14 609	14 841	14 928	15 067
Girls .. ..				12 873	13 279	13 700	14 007	14 280
Pupils .. ..				26 895	27 888	28 541	28 935	29 347

(a) Includes boys under 11 years: 1970, four; 1971, one.

The next table shows the number of secondary pupils by sex and class in all government schools:

**Secondary Pupils in Government Schools at 1 August, by Class**

Year			Secondary Grade						Total
			7	8	9	10	11	12	
Boys									
1970	..	..	3 668	3 541	3 260	2 191	797	565	14 022
1971	..	..	3 669	3 590	3 301	2 476	865	708	14 609
1972	..	..	3 605	3 542	3 360	2 617	934	783	14 841
1973	..	..	3 736	3 565	3 305	2 642	890	790	14 928
1974	..	..	3 795	3 693	3 299	2 609	942	729	15 067
GIRLS									
1970	..	..	3 292	3 283	3 145	2 067	696	390	12 873
1971	..	..	3 347	3 211	3 156	2 333	789	443	13 279
1972	..	..	3 453	3 284	3 040	2 426	922	575	13 700
1973	..	..	3 473	3 365	3 124	2 458	912	675	14 007
1974	..	..	3 438	3 469	3 186	2 530	1 000	657	14 280

### *District Schools*

Area schools, first established in 1935, were replaced by district schools from the beginning of 1973. The area schools were designed to serve rural areas; however, changing concepts of education and parental demands for a higher level of education more closely related to the levels provided by high schools, led to an upgrading of the level of education offered at country secondary schools and to the creation of district schools.

Subjects for the School Certificate are available to pupils in all district schools and high schools.



*Government Matriculation Colleges*

At matriculation colleges students are exclusively concerned with Higher School Certificate subjects undertaken as one or two-year courses. The first such college was the Hobart Matriculation College (previously Hobart High School)—no junior students were enrolled after 1961 and by 1965 all students were attempting matriculation. In 1967 Launceston High reached this stage and in 1968 the Elizabeth Matriculation College, in Hobart, was opened and elimination of junior students was completed by 1970. In 1973 the newly constructed Rosny College was opened to serve the eastern shore suburbs of Urban Hobart. (The three earlier matriculation colleges had resulted from conversion of existing high schools.) A matriculation college was also opened at Devonport during 1973 while the new Hellyer Matriculation College at Burnie was expected to open at the beginning of the 1976 school year. (In 1975 Burnie High School had Higher School Certificate classes.) The new matriculation college at Alanvale in Launceston enrolled a number of students in 1975 as construction continued.

The advantage claimed for matriculation colleges is that they concentrate, in the one centre, teachers who are specialists; further, the students benefit to the extent that the colleges are an intermediate step between the disciplined high school and the university.

*Correspondence School*

This school offers a wide variety of courses at the primary and post-primary levels, and provides instruction for adults as well as children. Valuable assistance is given to pupils in secondary classes of some district schools to assist them to achieve School Certificate standard.

The courses available include all primary and most secondary subjects: mathematics, English literature and history at the Higher School Certificate stage; English for New Australians; and courses for adults with special problems such as illiteracy.

**Non-Government (or Independent) Schools**

Non-Government schools have played a valuable part in Tasmanian education. Policies are framed by principals in conjunction with their senior staff and with the approval of their governing bodies or church. There can be freedom to experiment and to diversify courses if desired and this is shown by the number of subjects available to students.

*Registration*

Non-government schools and teachers are subject to the regulations of the Teachers' and Schools' Registration Board. This Board consists of nine members who hear and determine all applications for registration and keep a record of all teachers and schools not administered by the Education Department. Every school is graded and teachers are registered in one or more classifications or as special subject teachers. 'Provisional' teachers are those gaining qualifications so they can be registered. The Board may prescribe the mode of classifying teachers, the course of study and training required, the examinations to be passed, and the recognition of overseas qualifications. To secure registration, schools must provide for proper access, drainage, light, ventilation and sanitary conveniences, and inspections may be made by officers appointed by the Board. A daily register of attendance has to be kept.

*State Assistance to Non-Government Schools and Pupils*

The *Education Act* 1932 was amended in 1967 to provide for direct payments to non-government schools, the amount being calculated on a capitation basis; the subsidies are paid on the number of pupils enrolled at 1 August each year. For 1974-75 the amounts were \$24 per annum per primary pupil; \$34 per annum per secondary pupil up to fourth-year level; and \$54 per annum per pupil at fifth and sixth-year levels. From 1972-73 per capita grants of \$24 per annum per pupil were paid in respect of kindergarten pupils aged five years or more at 1 August. The 1974-75 expenditure was \$692 058. From the beginning of 1970, the Australian Government also provided per capita grants to independent schools. Details are contained in a later section dealing with Australian Government activities in education. State legislation passed in June 1970 provides for subsidies related to building loans interest. The amount of subsidy paid in 1974-75 was \$244 789.

Apart from these subsidies, benefits include: free or subsidised transport; use of the facilities of the Department's curriculum, teaching aids, speech education and guidance branches; attendance at trade and domestic science classes if room is available; and attendance by teachers at Departmental schools of method. Equipment can be purchased at favourable rates through the Supply and Tender Department.

*Enrolment at Non-Government Schools*

Most non-government school pupils are in schools controlled by religious denominations, as the next table shows:

**Non-Government Schools and Pupils at 1 August  
(Number)**

Particulars	Church of England	Pres- byterian	Catholic (a)	Seventh- day Adventist	Other schools	All schools
PUPILS						
1970 .. .. Boys	969	280	4 896	70	812	7 027
.. .. Girls	788	302	5 420	76	1 010	7 596
1971 .. .. Boys	878	256	4 800	70	876	6 880
.. .. Girls	734	299	5 367	67	1 068	7 535
1972 .. .. Boys	835	236	4 677	63	905	6 716
.. .. Girls	722	302	5 182	66	1 110	7 382
1973 .. .. Boys	852	247	4 633	64	999	6 795
.. .. Girls	706	325	5 211	62	1 138	7 442
1974 .. .. Boys	875	257	4 651	76	1 066	6 925
.. .. Girls	734	349	5 129	76	1 194	7 482
SCHOOLS						
1974 .. .. .	4	2	41	3	15	65

(a) Includes one 'special school' with an enrolment of eight girl pupils (1974).

Of the 24 schools in 1974 which catered for secondary pupils, 17 had Higher School Certificate classes.

Most independent school pupils are to be found in primary classes, and most of these are in Catholic schools. The following table shows the numbers and ages of all pupils in non-government school primary and sub-primary classes:

## Pupils Receiving Non-Government Primary Education at 1 August, by Age

Age last birthday (years)	1970	1971	1972	1973	1974
Under 7 .. .. .	2 254	2 109	2 106	2 363	2 496
7 .. .. .	1 097	1 081	959	857	946
8 .. .. .	1 138	1 073	1 073	1 000	906
9 .. .. .	1 131	1 089	1 057	1 037	1 044
10 .. .. .	1 165	1 133	1 106	1 098	1 090
11 .. .. .	1 094	1 147	1 103	1 131	1 112
12 .. .. .	365	358	373	367	346
13 .. .. .	46	33	36	26	29
14 .. .. .	2	3	1	3	4
15 and over .. .. .	1	2	1	..	..
Total—Boys .. .. .	3 978	3 829	3 703	3 750	3 903
Girls .. .. .	4 315	4 199	4 112	4 132	4 070
Pupils .. .. .	8 293	8 028	7 815	7 882	7 973

The following table shows the age of pupils in non-government schools at secondary level:

## Pupils Receiving Non-Government Secondary Education at 1 August, by Age

Age last birthday (years)	1970	1971	1972	1973	1974
11 .. .. .	159	109	118	107	97
12 .. .. .	1 059	1 042	942	1 051	1 063
13 .. .. .	1 268	1 309	1 321	1 283	1 343
14 .. .. .	1 286	1 304	1 309	1 337	1 341
15 .. .. .	1 160	1 200	1 191	1 214	1 231
16 .. .. .	795	863	790	799	816
17 .. .. .	460	428	484	442	443
18 and over .. .. .	115	106	111	109	92
Total—Boys .. .. .	3 049	3 051	3 013	3 045	3 022
Girls .. .. .	3 253	3 310	3 253	3 297	3 404
Pupils .. .. .	6 302	6 361	6 266	6 342	6 426

The following table shows the number of secondary pupils by sex and class in all non-government schools:

## Secondary Pupils in Non-Government Schools by Year at 1 August 1974

Pupils	Secondary year						Total
	1	2	3	4	5	6	
Boys .. .. .	644	658	581	578	302	259	3 022
Girls .. .. .	758	712	694	673	348	219	3 404
Total .. .. .	1 402	1 370	1 275	1 251	650	478	6 426

## Teachers and Teacher Training

There is a variety of courses available to trainee teachers in this State. The University of Tasmania awards the Diploma of Education after one year of a post-graduate course in which graduate students train as infant, primary or secondary teachers. The Tasmanian College of Advanced Education, with a northern division

in Launceston and a southern division in Hobart, provides a basic three-year course with an extension to four years for some selected students. On completion of the three-year course the student is awarded the Diploma of Teaching and on completion of a four-year course the student qualifies for the degree of Bachelor of Education. A course is provided for full-time and part-time graduate students leading to the degree of Master of Education. Both divisions offer courses for training in kindergarten, infant, primary and secondary teaching, but specialist courses are not common to both divisions. Specialisation in physical education, music, art and industrial arts is only possible in Hobart, whereas courses in English speech and drama, home economics and commercial subjects are only offered in Launceston.

Each year some students are given the opportunity of training in other states in areas for which courses are not available in Tasmania, e.g. speech therapy (at the University of Queensland), Asian languages (at the Australian National University, Canberra) and training for teaching deaf children (at the Glendonald Institute in Victoria).

The following table shows the number of teachers and instructors in Tasmanian government schools (excluding technical colleges):

Number of Government School Teachers and Instructors at 1 August 1974 (a)

Type of school	Full-time			Part-time and casual		
	Males	Females	Persons	Males	Females	Persons
Kindergarten (separate) ..	..	35	35	..	4	4
Special (b) .. .. .	23	76	99	1	13	14
Primary .. .. .	321	1 293	1 614	1	127	128
Primary with secondary classes	2	3	5	1	..	1
District .. .. .	194	344	538	5	51	56
High .. .. .	777	633	1 410	11	13	24
High with matriculation—						
High .. .. .	21	17	38	..	..	..
Matriculation .. .. .	19	10	29	..	..	..
Matriculation colleges ..	164	88	252	..	..	..
Total .. .. .	1 521	2 499	4 020	19	208	227

(a) Excludes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, speech education, music and training aid centres).

(b) Includes correspondence school.

The following table shows the number of teachers and teachers-in-training in Tasmania:

Full-Time Teaching Staff in Government Schools (a) and Teachers-in-Training at 1 August

Type of teacher	1970	1971	1972	1973	1974
Head teachers—					
Males .. .. .	241	229	223	235	234
Females .. .. .	12	15	17	15	16
Other teachers—					
Males .. .. .	1 119	1 197	1 275	1 395	1 405
Females .. .. .	2 330	2 368	2 391	2 506	2 560
Total teachers (a)—Males ..	1 360	1 426	1 498	1 630	1 639
Females ..	2 342	2 383	2 408	2 521	2 576
Teachers-in-training—					
Males .. .. .	405	460	492	473	465
Females .. .. .	763	856	945	997	1 060

(a) Includes teachers in non-teaching positions (e.g. curriculum branch staff, guidance officers, etc.) but excludes supervisors, those engaged in teacher training and technical education, part-time teachers, and those on long service leave.

In the primary schools in 1974, 80 per cent of the teachers were females. All subjects are taught by each teacher in these schools but itinerant teachers, when available, take physical education, music and speech classes on a circuit basis with each teacher being responsible for the teaching of the subject in several schools. In the post-primary schools, most teachers are specialists attached to subject departments within each school. In the smaller district schools, one teacher may take several subjects; rural science, home arts and crafts and technical subjects are handled by resident or itinerant specialists as available.

*Teacher Training:* The institutions where teachers-in-training are studying are shown in the next table:

Teachers-in-Training at 1 August

Institution attended	1970	1971	1972	1973	1974
MALES					
'Absorbed' colleges (a) .. .. .	128	146	..	..	..
University of Tasmania .. .. .	249	266	243	244	237
Tasmanian College of Advanced Education .. .. .	..	..	197	229	227
Other institutions .. .. .	28	48	52	..	1
Total .. .. .	405	460	492	473	465
FEMALES					
'Absorbed' colleges (a) .. .. .	470	524	..	..	..
University of Tasmania .. .. .	287	325	287	308	344
Tasmanian College of Advanced Education .. .. .	..	..	653	686	704
Other institutions .. .. .	6	7	5	3	12
Total .. .. .	763	856	945	997	1 060

(a) Teachers colleges, School of Art, Conservatorium of Music; absorbed by College of Advanced Education.

### Examinations

#### Introduction

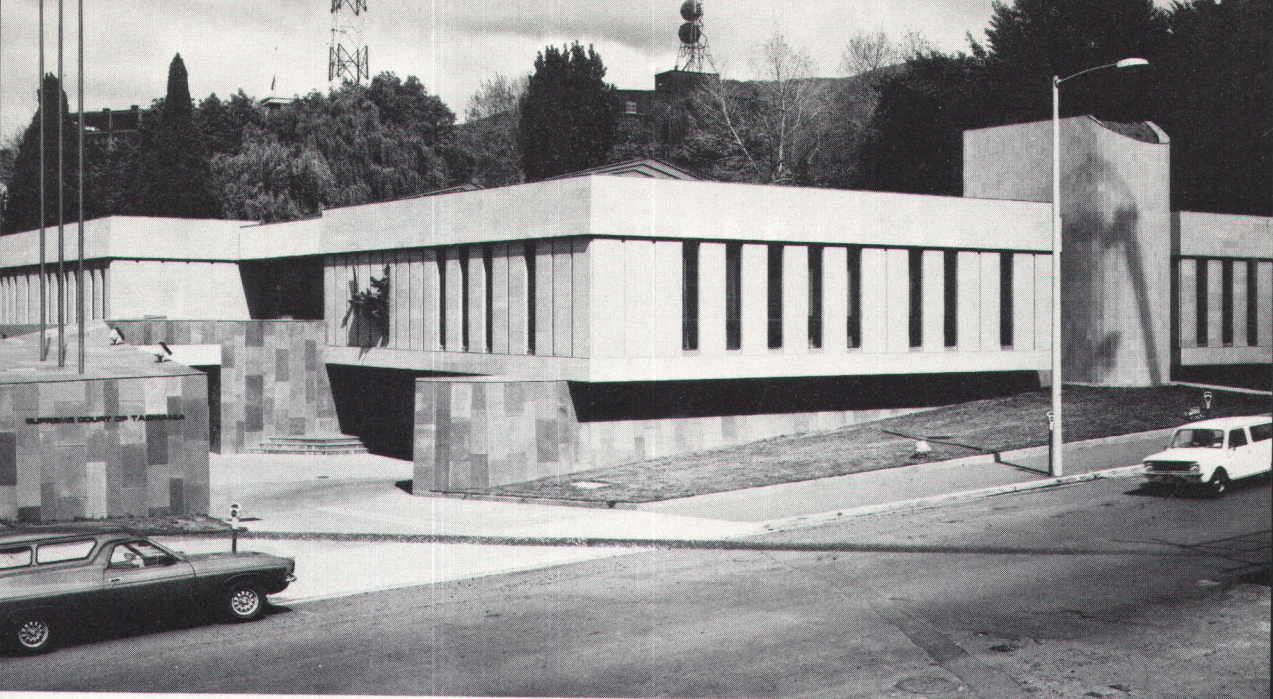
The Schools Board of Tasmania was constituted on 31 October 1944 by the *Education Act 1944* to devise and govern new systems of awarding school certificates.

In 1946 the school leaving age in Tasmania was raised to 16 years and the Board instituted a four-year course of academic secondary education leading to the Schools Board Certificate. The Intermediate Examination, which had been conducted by the University at third-year secondary school level until 1938, had been replaced by similar examinations conducted by the State Education Department and the Associated Public Schools. These were replaced in 1946 by the Schools Board Certificate, studied at fourth-year level.

This Schools Board Certificate demanded a level of achievement in basic and optional subjects after a four-year course of general education. Secondary schools were allowed the choice between an accrediting system or an external examination.

As a result of the proposals of the Schools Board and the Radford Report, the Schools Board was re-constituted with a membership of 21 on 1 September 1966, to allow the Board to become, in 1969, the sole examining and certifying



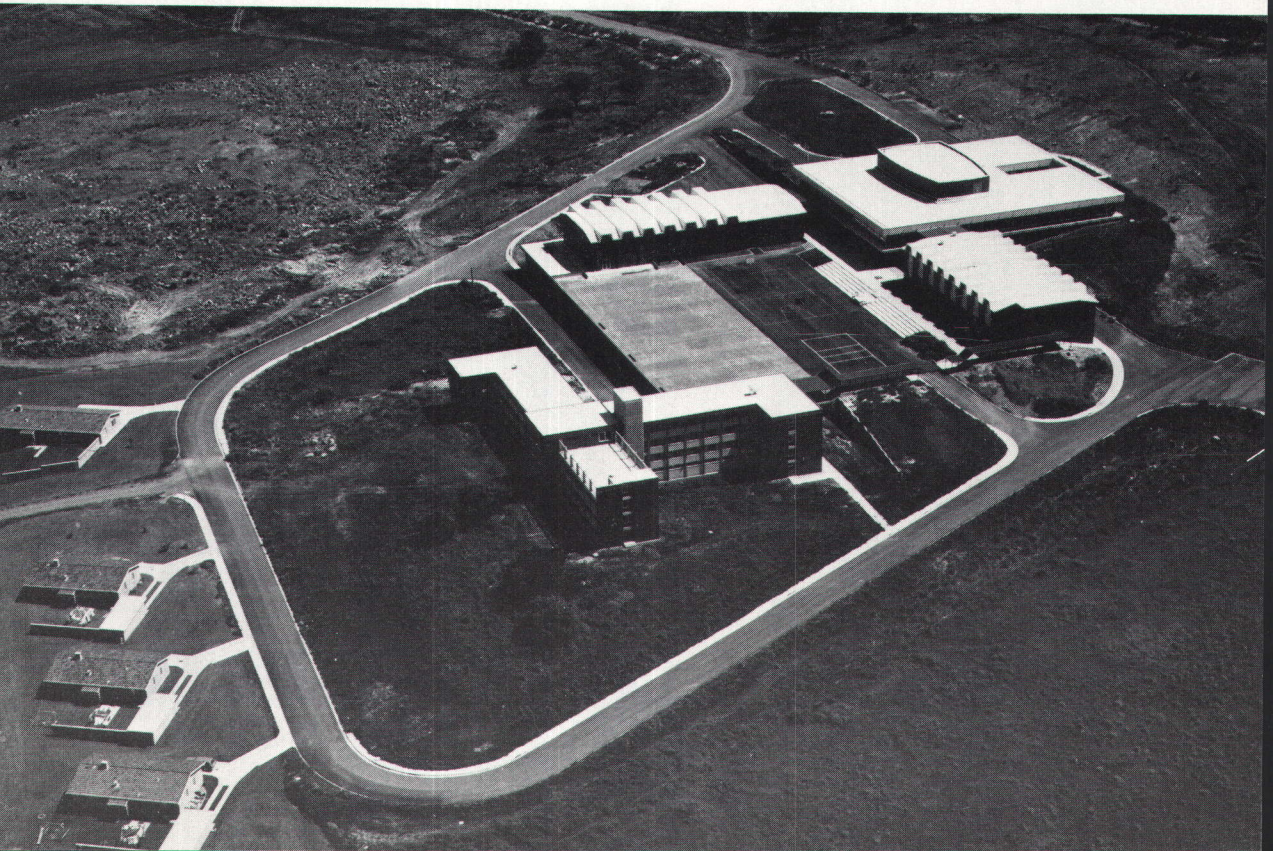


*The Supreme Court, Hobart*

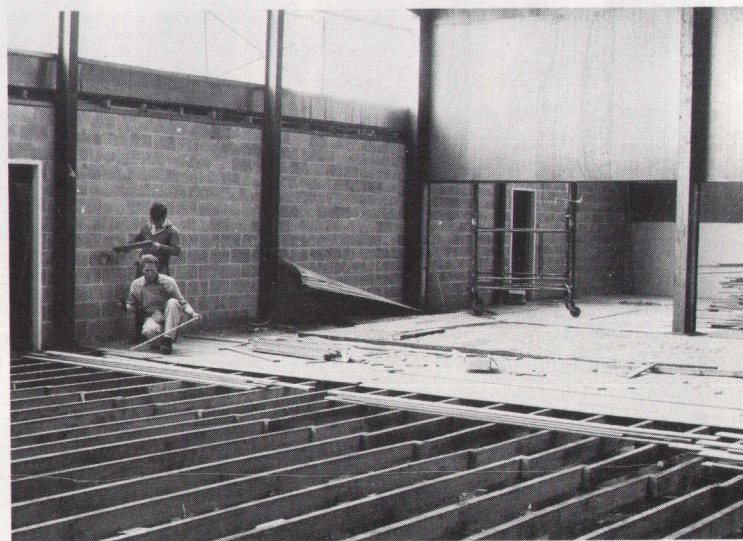
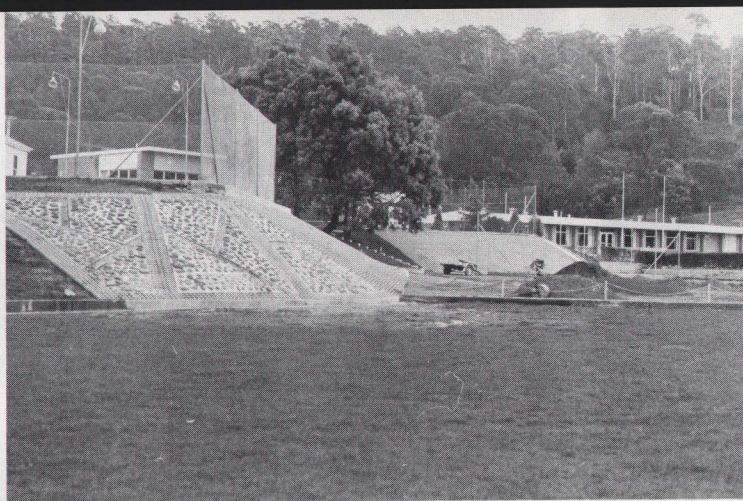
[Dept of Film Production]

*The new Police Academy, Rokeby*

[Dept of Film Production]







*R.E.D. Scheme Works:— Top left: Rockwalling at Trevallyn Park and Improvement Association's sporting complex.  
Top right: Reeconian Rowing Club building, East Devonport, under construction.  
Lower left and right: Extension to Devonport Recreation Association's community squash centre.*

*[G. Warren]*



body at the secondary level. A further amendment to the Act in 1974 made provision for the Council of Advanced Education to nominate members, and increased the membership of the Board to 23 as from 1 July 1974.

An important change of considerable significance to employers, and to the prerequisites they demand of applicants for employment, concerns the new types of certificate introduced in 1969. There are only two such certificates issued, known as the School Certificate and the Higher School Certificate. These replaced all previous certificates. The Schools Board Certificate, the Secondary Schools Board Certificate of the Education Department and the Matriculation Certificate of the University of Tasmania are no longer issued. The previous certificates were *group* certificates demanding, in varying degrees of detail, certain compulsory subjects or groups of subjects as prerequisites to the award of the certificate. The essential difference is that both of the new certificates are *subject* certificates requiring no compulsory subjects or groups of subjects to be studied.

For the School Certificate there are no external examinations and awards are determined by internal assessment with a wide variety of methods of evaluation. A system of regional moderation has been implemented by the Schools Board to ensure comparability of standards between schools. (*See the later section outlining organisation of moderation procedures.*) Final results of the School Certificate are notified to candidates in December by the principal of the school attended by the candidate. Each candidate receives a printed result slip showing the level of study and the award given in each subject. The formal certificate is issued by the Schools Board of Tasmania.

### *The School Certificate*

The subjects for this certificate may be taken at various levels and a wide choice is available to cater for different levels of ability and interests. A preliminary award may be granted after the third year of secondary education to those candidates who leave school at this stage. The full award is granted to successful candidates who complete four years of study in the subject.

### *The Higher School Certificate*

This is taken at the end of the fifth or sixth year of secondary education. The certificate is awarded as a result of examinations conducted in November or December each year. Subjects may be studied at Level I, Level II, Level III (Division 1) or full Level III, but all levels are not necessarily available for all subjects. Requirements for matriculation are determined by the University of Tasmania from the results of the Higher School Certificate examinations conducted by the Schools Board of Tasmania in certain Level III subjects.

In some Level III subjects awards are determined solely on the basis of an external examination. In other Level III subjects awards are determined by the use of an external examination component together with a school assessment component. The Schools Board has ruled that the school assessment component may provide a maximum of 50 per cent of the total result, but the actual proportion of this component to be used for each subject is determined by the Schools Board on the recommendation of the appropriate subject committee. Where an internal assessment component exceeds 10 per cent of the total result, the Board has ruled that the school assessments for each class must be standardised to have the same mean and standard deviation as the external examination results of the members of that class. In Level I, Level II and Level III (Division 1) subjects, awards are determined by the candidate's school, after the school has taken part in a consultative system, which aims to provide comparability in standards between schools in the subject. The Board appoints a subject adviser in each subject field.

In most subjects at Level III (Division 1) syllabus will also be provided for those wishing to undertake a preliminary study of the subject before attempting the full Level III syllabus. It is not necessary to attempt the Division 1 syllabus to obtain a full Level III award, nor do results at Level III (Division 1) count towards the full Level III award.

### State Organisation of Moderation Procedures

The Schools Board of Tasmania is the body responsible for awarding the secondary school awards (the School and Higher School Certificates) discussed in the previous section. The Schools Board is also responsible for ensuring development of satisfactory moderation procedures and the maintenance of subject standards. To this end, the State is divided into seven *moderation regions*. Moderation is the method used to ensure reasonable comparability of standards between schools throughout the State.

*Committee for Moderation of Standards:* This body determines subject standards and reviews moderation procedures. Members of the committee include representatives from the Schools Board, superintendents of high schools and representatives from non-government schools and the teachers' union—the Teachers' Federation.

*Regional Council:* Operations of the scheme for moderation of standards are reviewed by the Council which recommends variations to the Schools Board. Members include secondary school superintendents and school principals in the region. The chairman is appointed by the Schools Board from members of the Committee for Moderation of Standards.

*Moderation Advisory Committee:* Moderation procedures are planned in detail by the Committee which also investigates problems in particular subject fields. The chairman of the Committee for Moderation of Standards is also the chairman of this body; other members include the members of the Committee for Moderation of Standards and the chief moderators.

*State Moderation Committee:* The Committee promotes the flow of ideas on moderation between regions and identifies and resolves problems connected with particular subjects. The chief moderator in each subject is chairman and the remaining members are the regional moderators (seven) in each subject.

*Regional Moderation Committee:* Application of moderation procedures within the region is the responsibility of this Committee. Chairmanship is vested in the regional moderator; other members are subject moderators from each school in the region.

As well as the various committees there are a number of positions, mostly filled by teachers, which are basic to the successful operation of the system. The following briefly outlines the functions associated with each position:

*Chief Moderator:* Appointed by the Schools Board and responsible for the co-ordination of moderation procedures between regions in each subject field.

*Regional Moderator:* Appointed by the Schools Board on the recommendation of the Regional Executive Committee. A regional moderator is appointed in each subject field. The duties associated with this position include: (i) maintaining contact between subject moderators within the region and ensuring satisfactory subject standards; and (ii) informing subject moderators of current developments in their subject and in the field of assessment.

*School Moderator:* This position will normally be held by the school principal. The school moderator's duties include: (i) appointing school subject moderators; (ii) determining the results of each School Certificate candidate in his school and submitting award recommendations to the Schools Board; (iii) communicating result sheets (showing percentage scores of students on test materials) to the Schools Board for distribution to the Regional Moderation Committees; and (iv) informing the Regional Executive Committee of names of teachers willing to accept nomination for the position of regional moderator.

*Subject Moderator:* Appointed by the school moderator. The duties include: (i) supervising all details of assessment in his subject for the award of the School Certificate; and (ii) informing the Regional Moderation Committee of proposed assessment plans.

### Other Education Matters

Various functions of the Education Department are described in the following section; some of these are applicable to both government and non-government schools.

#### *Equipment*

The Department maintains an active interest in the development of teaching methods and of teaching aids. The Teaching Aids Centre provides specialised assistance to schools. A library of 16mm films, film strips and coloured slides and records are distributed on loan. The records are mainly used for music appreciation, poetry and languages. Printed aids, mainly in the form of charts and booklets, are provided (e.g. charts for cursive writing and booklets for the Cuisenaire system). Audio-visual aids (tape recorders, film projectors, centralised radio systems, strip and sound projectors, television receivers, etc.) are bought by the Centre and re-sold to the schools with a \$ for \$ subsidy given by the Department. Repair and maintenance of this equipment is done free of charge by the Centre. Specialised electronic equipment has been developed and produced, e.g. auditory training equipment for deaf students. A talks studio with recording equipment and tape duplicating facilities operates to prepare language laboratory programs and the recording of school broadcasts.

A number of students' books are produced for sale to schools by both the Education Department and the Australian Broadcasting Commission.

#### *Libraries*

A significant development program in this field has been implemented in recent years, particularly in the high schools and matriculation colleges where substantial print and audio-visual resource collections have been built up in attractive and spacious library suites. A comparable program in primary and district schools is currently about to be launched. Grants are made directly to schools on a per capita basis for the purchase of library resources.

The introduction of a post-graduate course in librarianship at the Tasmanian College of Advanced Education has made possible the recruitment and training of at least ten new teacher-librarians each year. Shorter courses to train primary school librarians became available in 1974.

The Library Services Branch, under the direction of a supervisor of libraries, offers expert bibliographic and technical advice to schools and controls a central cataloguing service to schools.

*Radio and Television Programs*

**Radio:** All schools in the State use one or more of the programs provided by the Australian Broadcasting Commission. In most primary schools, programs are taken direct from the air, but secondary schools use a tape service provided by the Education Department Teaching Aids Centre. The Centre records all secondary school programs and distributes the tapes on loan to schools which would otherwise have trouble fitting programs into school timetables. Some primary programs are also recorded for schools in poor reception areas.

**Television:** Tasmania is well advanced in the availability and use of educational television; programs are provided by the A.B.C. Every government and non-government school within a television reception area is equipped with at least one receiver. The schools have a standard issue of one free set each and extra sets may be purchased. For extra sets the State Government provides a subsidy equal to 50 per cent of the purchase price. The maximum use of television is made by primary schools where timetables are quite flexible; many secondary schools have difficulty in planning timetables so that classes may view programs. For this reason great interest is being shown in Departmental experiments with video-recording which, it is hoped, will make television as flexible an educational aid as pre-recorded radio programs.

**Selection of Programs:** Curriculum officers and teachers are represented on the planning and appraisal committees for all Tasmanian produced programs. The committees also assist with selection of series from other sources.

**Staff:** Apart from technical staff, the A.B.C. employs a State Supervisor of Education (schools broadcasts), two radio producers, two television producers and associated staff. The Education Department provides a liaison officer and studio teachers, seconded full-time to the A.B.C.

*Safety Officers*

Transport Commission officers visit the schools regularly to give lectures and practical demonstrations dealing with various aspects of road safety. Driver education courses are given in some schools, a type of training likely to be extended. Periodically students are reminded of the dangers associated with explosives, fire-arms and drug abuse.

*Parents and Friends Associations*

While a major function of these bodies is fund-raising for the provision of subsidised equipment and library books, they also act as a valuable forum for discussion on education.

*Migrant Education*

This is arranged by the Department at certain schools or by combined radio-correspondence lessons to teach English to migrants. The cost of migrant education is reimbursed by the Australian Government.

*Bursaries*

A system of junior and senior bursaries once operated to assist pupils in post-primary government and non-government schools. However, senior bursaries have not been awarded since 1966 when Australian Government Secondary Scholarships were introduced. After the introduction in 1973 of an Australian Government scheme of assistance for school children living in remote localities the award of junior bursaries also ceased.

During 1974, 24 junior bursaries were held at a cost to the Bursaries Board of \$2 694. The Bursaries Board fund comprised money from the Government and private donations.

Currently the principal forms of assistance are:

- (i) *School Certificate Allowances* payable to parents or guardians of full-time students undertaking their fourth year of secondary education. The allowance, subject to a means test, amounts to \$70 per annum. The number granted during 1974 was 488 and expenditure was \$34 160.
- (ii) *Special Bursaries* awarded in cases of necessitous circumstances and where the student has shown an aptitude for further study. For 1974, 78 special bursaries, involving expenditure of \$5 366 were awarded.
- (iii) *Loan Issue Supplies* provided to assist parents who are unable to meet the cost of text books, materials and subject levies associated with educating their children. Expenditure under this scheme during 1974 was \$153 015.

## TECHNICAL AND ADULT EDUCATION

### Technical Education

The Education Department administers Technical Colleges at Hobart, Launceston, Devonport, Burnie and Queenstown which provide trade, technical and sub-professional technician courses. Some students also receive tuition at Rosebery and Smithton using the high school facilities. Technical College courses cater for students who are above the age of compulsory school attendance.

#### Courses

*Certificate Courses:* These courses cater for middle level vocations that lie between trades and professions. They are designed in consultation with industry to meet the increasing need for sub-professional personnel who are performing many tasks previously carried out by university graduates or diplomates. On successful completion of a course, a certificate is awarded by the Education Department. Courses provided include drafting, engineering, surveying, architecture, building, commerce, business studies, marketing and food services.

*Trade Courses:* These courses combine theoretical and practical aspects of the trade, and are complementary to employer training given to apprentices. From 1965 apprentices have been required to attend one full day per week for three years and this has practically eliminated evening classes for apprentice training. Since 1968 a system of block training has operated in respect of a number of trades and for apprentices previously taught by correspondence. During the year, periods of two weeks are spent in full-time study in a technical college. On successful completion of the course, a Certificate of Trade Proficiency is awarded. Post-trade courses are available to extend the skill and knowledge of the tradesmen.

*Correspondence Tuition:* This is administered through the Hobart Technical College and is intended for isolated students. Many apprentice correspondence courses have been replaced by the system of block training.

#### Enrolments

The total enrolment in technical colleges during 1974 was 9 826. Enrolment distribution was: Hobart Technical College, 51 per cent of total enrolments; Launceston, 24 per cent; Burnie, 12 per cent; Devonport Technical College, 11 per cent; and Mount Lyell School of Mines and Industries, two per cent. Distribution of persons enrolled between courses was: trade and post-trade courses, 44 per cent of total enrolments; certificate and post-certificate courses, 47 per cent; and miscellaneous subjects, nine per cent. Of the total number of students enrolled 71 per cent were males.

### College Councils

Each technical college has a council comprising local community representatives who have been appointed by the Governor. Members are drawn from trades and industries, professions and municipal councils. They advise the Director of Technical Education on the provision and development of college facilities and courses.

### Examinations

These are conducted by the Education Department in July and November each year. Papers are set and marked, or assessments carried out on a State-wide basis except for the first and second year trade subjects in which case each college makes its own arrangements.

### Technical Teachers, Students and Expenditure

The following table shows the number of schools, teachers and students in technical education and the yearly expenditure:

**Technical Education: Teachers, Students and Expenditure**

Particulars	1970	1971 (a)	1972 (a)	1973 (a)	1974
Schools, colleges, etc. no.	9	7	7	6	7
Teachers—Full-time .. no.	199	189	172	194	(b) 258
Part-time .. no.	676	565	394	513	(c) 653
Students (d) .. no.	8 278	6 849	7 234	7 519	9 826
Expenditure (e) .. \$'000	2 025	2 366	2 607	3 004	3 667

(a) Excludes details for diploma courses provided as a part of the advanced education system. All such courses had been transferred to the College of advanced Education by 1974.

(b) 215 males and 43 females.

(c) 537 males and 116 females.

(d) Gross number enrolled during the year.

(e) Excludes capital expenditure on new buildings, etc.

### Adult Education

#### Origin and Organisation

Establishment of a mechanics' institute in Hobart in 1827 was the start of adult education in Australia. The mechanics' institute movement which was then just three years old (there were only two other institutes at that time: in London and Glasgow) was the fore-runner of the present adult education organisation in Tasmania which began in 1914. One part-time tutor was appointed and three classes started in 1914 with support for the new system coming from the University of Tasmania and the Workers' Educational Association. Financial assistance was given by the State Government.

The present Adult Education Board was established under the *Adult Education Act* 1948. The Board has nine members. Three of these are nominated by the Minister for Education and one each nominated by: University of Tasmania; the State Library Board; the Workers' Educational Association; the Arts Council; the Australian Broadcasting Commission; and the Education Department. In addition the Board has a Director, a Deputy Director, five Regional Directors, a Community Arts Director, five Adult Education Officers and a Principal.

Hobart has three Adult Education Centres: at the Domain, South Hobart and North Hobart; as well as an enquiries and enrolment centre in the city centre. The building which once housed the University of Tasmania has been restored as a class complex and community centre, and was re-opened in 1973 as the Domain

House Adult Studies Centre. An office was established on the Eastern Shore in October 1974 at Rosny College, and another at Queenstown in April 1975. There are also centres in Launceston, Devonport and Burnie. 'The Grange', a National Trust home at Campbell Town (south of Launceston), is the Board's residential college.

### Operations

**Courses:** Courses are run throughout the year and vary in duration from one term to three terms. The 1 053 courses in 1974 attracted 13 034 enrolments requiring 481 part-time tutors. In addition there were 3 497 enrolments in seminars, lectures and weekend and summer schools. The range of courses included the arts, practical crafts, homecrafts, languages, physical education, liberal studies and social service courses. The Board, in co-operation with the University of Tasmania, arranges courses in Launceston for external students and, in conjunction with the Department of Labor and Immigration, courses in intensive English for migrants, in Hobart, and other courses for migrants throughout the State. Increasing emphasis was given to assisting people with low reading and writing skills.

**Schools, Seminars, Special Lectures:** During 1974 the Board ran 61 special one-day and week-end schools and seminars and conducted 44 special lectures. The four summer schools covered historic buildings, arts, string playing and the Furneaux Islands. Other events included a week-end, 'Britain Today', opened by the Governor, Sir Stanley Burbury; seminars on the family in the '70's, and Mining, Manpower and Management; a study tour of Tasmania; and lectures by Professor Yarwood, Lord Denning, Dr Bruce Mitchell and Douglas Payne. The Morris Memorial Lecture was given by Professor Zelman Cowen, Vice-Chancellor of the University of Queensland. The Board arranged, with the A.B.C., the first performance of a violin concerto by Larry Sitsky.

**Residential College:** 'The Grange' residential college has been leased from the National Trust since 1964. Built in 1848, 'The Grange' is an elegant colonial country house used for both week-end schools and week-long summer schools. The house offers accommodation for 27 students. During 1974, 25 schools were held at 'The Grange' with a record enrolment.

**Book Discussion Groups:** Nearly 40 of these groups throughout the State meet regularly each month to discuss specially chosen books. Membership was 456 in 1974.

The following table shows the annual receipts and expenditure on selected items for a five-year period:

Adult Education: Selected Receipts and Expenditure  
(Source: Annual Reports of the Auditor-General)

(\$)					
Item	1969-70	1970-71	1971-72	1972-73	1973-74
RECEIPTS					
State Government grant ..	158 000	183 700	188 000	212 500	298 642
Student fees .. ..	55 074	64 029	75 704	93 450	104 877
Schools, seminars, lectures, etc.	35 751	21 116	23 127	27 606	30 298
Other .. .. .	4 717	2 990	6 052	5 073	5 470
Total .. ..	253 542	271 835	292 883	338 629	439 287



**Adult Education: Selected Receipts and Expenditure—continued**  
**(Source: Annual Reports of the Auditor-General)**  
**(\\$)**

Item	1969-70	1970-71	1971-72	1972-73	1973-74
<b>EXPENDITURE</b>					
Salaries .. .. .	109 788	134 591	143 045	162 362	212 749
Tutors' fees, allowances ..	50 304	53 912	60 721	86 700	94 328
General administration ..	45 314	34 293	47 026	r 48 234	59 650
Schools, seminars and exhibitions .. .. .	15 017	18 813	31 401	r 32 165	41 732
Visiting artists .. ..	12 997	14 326	82	..	..
Other .. .. .	9 914	19 251	13 880	21 694	22 013
Total .. .. .	243 334	275 186	296 155	351 155	430 472

## TERTIARY EDUCATION

### Advanced Education in Tasmania

#### *Concept*

Education at tertiary level has been available at universities but there have also been professional courses provided by other institutions; in Tasmania technical colleges provided courses of this type in addition to playing their main role in providing apprentice training, trade courses, etc. So, in effect, the development in recent years of colleges of advanced education does not represent a radical innovation but rather a rationalisation and re-organisation of non-university tertiary courses. The Australian Government, having first accepted some financial responsibility for university education, has now gone further and is actively encouraging the development of colleges of advanced education.

In general terms, the colleges are providing tertiary education and training with a vocational emphasis, as distinct from the academic education provided by universities (though, of course, some university courses in Australia tend to be also vocational, e.g. legal and medical courses). In some states advanced education is being developed on a base provided by existing institutions but in Tasmania and the A.C.T. separate colleges have been established.

#### *History*

Following a national seminar on planning for colleges of advanced education held in Hobart towards the end of 1967, the educational specifications and a master plan for the Mt Nelson College were prepared. In June 1969 the contract for the Resources Materials Centre (stage 1) of the project was let. Appointment of staff to the College commenced in 1971 and during 1972 the first on-site lectures were held at Mt Nelson. In 1973 a campus of the College was established at Newnham (a suburb of Launceston).

#### *Finance*

At the June 1973 Premiers' Conference the states accepted the Australian Government's offer to assume full financial responsibility for tertiary education from 1 January 1974. (The amounts of recurrent expenditure saved by the states were deducted from their financial assistance grants.) Prior to this date the Australian Government provided \$1 for every \$1 of state capital expenditure and \$1 for every

\$1.85 of state recurrent expenditure on colleges of advanced education. The Australian Government also announced in its 1973-74 Budget the decision to abolish tuition fees.

Prior to 1972-73 Australian Government grants for colleges of advanced education and for teachers colleges were provided under separate programs, but since then they have both been absorbed into a wider program of grants for advanced education. Recent grants for advanced education (including teachers colleges since 1972-73) have been (in \$'000): for current expenditure—1971-72, 887; 1972-73, 1 128; 1973-74, 3 959; for capital purposes—1971-72, 1 385; 1972-73, 1 425; 1973-74, 292.

#### *Advanced Education Council and College*

The *Advanced Education Act* 1968 established the Council of Advanced Education. An amendment to this Act now provides for the appointment of 15 members of whom one shall be the person holding the office of the Principal; two shall be officers of the Advanced Education Service (other than the Principal); and one shall be a person who is undertaking a course of advanced education.

The Tasmanian College of Advanced Education is organised into divisions consisting of the Division of Administrative Studies, the Division of Science and Technology, the Division of Teacher Education, the Division of Educational Services and the Office of the Registrar. In addition, the School of Art and the Conservatorium of Music are part of the College. The campus at Newnham (Launceston) consists of the Division of Teacher Education and General Studies and extensions of the Divisions at the Mount Nelson (Hobart) campus.

Both the Mount Nelson campus and the Newnham campus of the College are carrying out an extensive expansion program. Some residential facilities exist at Newnham but none are available at Mount Nelson.

#### *Courses*

Awards are made at four levels: bachelor degree, diploma, graduate diploma and master degree. In the following table students in the education course have been shown at the bachelor degree level although a substantial number of students complete this course at the diploma level.

College of Advanced Education: Enrolments by Course, 1975  
(Number)

Course	Full-time		Part-time		Total	
	Males	Females	Males	Females	Males	Females
Degree Courses—						
Accounting .. ..	63	13	135	9	198	22
Business administration ..	12	1	42	5	54	6
Engineering .. ..	94	3	95	..	189	3
Pharmacy .. ..	27	29	4	6	31	35
Public administration ..	5	..	41	..	46	..
Surveying .. ..	48	..	5	..	53	..
Applied chemistry (a) ..	11	1	35	5	46	6
Medical technology .. ..	4	1	1	7	5	8
Education (a) .. ..	215	739	36	45	251	784
Music (a) .. ..	33	39	6	11	39	50
Total .. ..	512	826	400	88	912	914

College of Advanced Education: Enrolments by Course, 1975—*continued*

(Number)

Course	Full-time		Part-time		Total	
	Males	Females	Males	Females	Males	Females
Diploma courses—						
Medical laboratory technology .. ..	6	2	13	9	19	11
Metallurgy (b) .. ..	..	..	7	1	7	1
Fine art .. ..	56	57	6	7	62	64
Design .. ..	11	5	1	..	12	5
Art teacher education ..	12	38	2	1	14	39
Environmental design ..	77	18	..	..	77	18
Old diploma courses (business administration, accounting, public admin- istration) (b) .. ..	..	..	30	1	30	1
Valuation (R.M.I.T.) ..	6	..	5	..	11	..
Total .. ..	168	120	64	19	232	139
Post-graduate diplomas—						
Librarianship .. ..	5	8	..	11	5	19
Social work .. ..	24	24	2	2	26	26
Legal practice .. ..	11	3	..	..	11	3
Special teacher education	6	29	..	1	6	30
Architecture .. ..	..	..	17	3	17	3
Landscape planning .. ..	..	..	2	..	2	..
Urban planning .. ..	..	..	8	3	8	3
Music .. ..	3	4	1	1	4	5
Total .. ..	49	68	30	21	79	89
Post-graduate degrees—						
Master of Education ..	2	1	39	26	41	27
Master of Pharmacy ..	1	1	..	..	1	1
Total .. ..	3	2	39	26	42	28
Total all courses ..	732	1 016	533	154	1 265	1 170

(a) Students in these courses have been shown at degree level, although many students will complete their course at diploma level.

(b) Courses are being phased out.

The next table shows enrolments for a three-year period:

## College of Advanced Education: Enrolments

(Number)

Description	1973			1974			1975		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
Full-time ..	578	842	1 420	680	941	1 621	732	1 016	1 748
Part-time ..	498	85	583	542	98	640	533	154	687
Total ..	1 076	927	2 003	1 222	1 039	2 261	1 265	1 170	2 435

## University of Tasmania

*History*

The University of Tasmania was founded in 1890 and was the fourth to be established in Australia. When teaching began in 1893 with three lecturers and six students it occupied 1.6 hectares of land on the Queen's Domain at Hobart.

Growth of the University was slow for the first half century despite the State's progressive policy in education generally. The Faculties of Arts, Science and Law were established first, with Commerce added in 1919 and Engineering in 1922. At the outbreak of World War II, the teaching staff in many departments consisted of one full-time professor or lecturer, possibly with part-time assistants.

After the war, the influx of ex-servicemen filled all Australian universities to capacity and student enrolments in Tasmania rose to 740 in 1947. Financial assistance from both State and Australian Governments enabled the staff to be almost doubled between 1945 and 1950 and energetic research schools developed. A Faculty of Education was established in 1947 with responsibility for some of the State's teacher training. In 1957 came the Murray Report on the Australian Universities, leading to a significantly increased flow of Australian Government money into the universities. Since 1958 Faculties of Agricultural Science and Medicine have been established.

In 1973 a further major development occurred when the offer made by the Australian Government to accept full financial responsibility for tertiary education was accepted by the states. The 1973-74 Federal Budget announced the abolition of tuition fees as from the beginning of 1974, and the introduction of a scheme of means tested assistance for full-time students in tertiary education. Together these benefits remove virtually all the financial barriers to enrolment in universities in Australia.

*Government of the University*

The governing body of the University is the Council, comprising three members elected by the teaching staff, four by graduates, one by undergraduates and two by the two Houses of Parliament; four members are appointed by the Governor, and three appointed by the Governor on the recommendation of the Council. The Director-General of Education and the chairman and deputy chairman of the Professorial Board are *ex officio* members. The Council is presided over by the Chancellor.

The Vice-Chancellor is the chief academic and executive officer. He presides over the Professorial Board which is the governing body on academic matters. Reporting to the Board are the eight faculties.

*Finance*

From 1974 the Australian Government assumed full responsibility for tertiary education and in 1974 it provided \$9.427m towards the University's recurrent expenditure. In 1971 the Australian Government had provided only \$1.916m towards recurrent expenditure while the State Government provided \$2.448m for this purpose.

The following table shows the income and expenditure of the University of Tasmania for a four-year period:

**University Income and Expenditure (a)**  
(\\$'000)

Particulars	1971	1972	1973	1974
<b>INCOME</b>				
Recurrent purposes—				
Australian Government .. .. .	1 916	2 166	2 706	9 427
State Government .. .. .	2 448	2 835	3 866	..
Fees .. .. .	1 062	1 136	1 141	..
Other .. .. .	117	101	200	413
Total .. .. .	5 543	6 238	7 913	9 840
Equipment grants—				
Australian Government .. .. .	..	..	265	265
State Government .. .. .	..	..	265	..
Total .. .. .	..	..	530	265
Other purposes—				
Halls of residence .. .. .	146	143	152	160
Prizes, scholarships and benefactions .. .. .	45	52	98	83
Research grants .. .. .	272	288	345	464
Other .. .. .	150	194	61	49
Total .. .. .	613	677	656	756
Total income .. .. .	6 156	6 915	9 099	10 861
<b>EXPENDITURE</b>				
Recurrent purposes—				
Academic activities (incl. research) .. .. .	3 835	4 297	5 410	6 605
Academic services .. .. .	527	616	698	1 018
Student and staff services .. .. .	80	87	108	131
General university services .. .. .	1 130	1 315	1 626	2 293
Other .. .. .	8	2	6	16
Total .. .. .	5 580	6 317	7 848	10 063
Equipment grants—				
Academic activities (incl. research) .. .. .	..	..	242	204
Academic services .. .. .	..	..	173	619
General university services .. .. .	..	..	10	91
Total .. .. .	..	..	425	914
Other purposes—				
Halls of residence .. .. .	142	148	164	195
Prizes, scholarships and benefactions .. .. .	30	23	30	41
Research grants .. .. .	270	312	377	434
Other .. .. .	204	174	75	..
Total .. .. .	646	657	646	670
Total expenditure .. .. .	6 226	6 974	8 919	11 647

(a) Excludes receipts for capital purposes and capital expenditure.

### Staff and Students

The next table shows the courses in which students were enrolled:

*Tertiary Education*  
University Enrolments, 1975

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Course	Students enrolled			
	New enrolments 1975 (a)	Total enrolments		
		Males	Females	Total
Master and doctor degrees ..	79	159	45	204
Bachelor degrees—				
Agricultural science .. ..	16	42	8	50
Arts .. .. .	538	585	663	1 248
Economics .. .. .	115	271	36	307
Education .. .. .	72	27	50	77
Engineering .. .. .	47	173	2	175
Law (b) .. .. .	34	134	35	169
Med. science and medicine (c) ..	52	178	68	246
Science .. .. .	202	391	132	523
Total .. .. .	1 076	1 801	994	2 795
Education .. .. .	172	129	145	274
Other (d) .. .. .	66	78	48	126
Total .. .. .	238	207	193	400
Total all courses ..	1 393	2 167	1 232	3 399

(a) New enrolments refer to those students who either commenced studies for higher degrees or, being undergraduates, enrolled at the University of Tasmania for the first time in 1975, or transferred from one faculty to another. This is a change in classification by all Australian Universities and makes these figures non-comparable with the statistics of previous years.

(b) From 1975, students must complete one year in another faculty before starting law.

(c) Students may enrol for an honours degree in Medical Science after completing at least three years of M.B., B.S. course.

(d) Of the students classified as 'other' 25 students were enrolled for a master degree qualifying examination. The remainder were enrolled for university subjects but were not proceeding to either a degree or diploma.

Comparable enrolment details for the more popular bachelor degree courses for 1974 were: arts—males 556, females 624, total 1 180; science—males, 366, females 134, total 500; economics—males 273, females 40, total 313; medicine—males 190, females 78, total 268. New enrolments for these courses in 1974 were: arts, 396; science, 107; economics, 82; and medicine and medical science, 81. New enrolments for 1974 are not strictly comparable with figures for 1975 (see note (a), above).

The following table shows the number of teaching staff and students in selected years:

**University Teaching Staff (Full-time) and Students Enrolled**

Particulars	1969	1970	1971	1972	1973	1974	1975
Teaching staff—							
Professors .. .. .	30	30	31	33	32	33	33
Other .. .. .	163	172	189	215	219	238	247
Total teachers .. ..	193	202	220	248	251	271	280
Individual students enrolled ..	2 830	3 119	3 444	3 371	3 263	3 414	3 399

*Degrees Conferred*

The following table shows degrees conferred:

**University of Tasmania: Degrees Conferred (a) During Year Ended 30 June**

Degree (b)	1970	1971	1972	1973	1974	1975
<b>HIGHER DEGREES</b>						
Higher Doctor .. .. Males	..	1	..	3	1	2
Females	..	..	..	..	..	..
Doctor of Philosophy .. .. Males	13	15	8	r 11	14	7
Females	..	2	1	r 2	1	4
Master .. .. Males	11	3	8	8	11	8
Females	3	2	1	1	2	1
<b>BACHELOR DEGREES</b>						
Agricultural Science .. .. Males	11	11	14	9	13	10
Females	..	..	..	4	5	5
Arts .. .. Males	90	110	r 121	109	120	96
Females	119	127	154	149	169	127
Economics .. .. Males	r 45	r 41	43	60	67	58
Females	r 6	r 5	5	7	5	18
Engineering .. .. Males	23	20	26	36	34	27
Females	..	..	..	..	1	..
Law .. .. Males	14	13	20	34	29	17
Females	6	7	3	5	7	4
Medical Science .. .. Males	..	..	19	21	14	38
Females	..	..	6	8	11	5
Medicine/Surgery .. .. Males	..	18	12	16	12	15
Females	..	2	3	5	10	5
Science .. .. Males	r 89	r 94	89	83	101	96
Females	r 24	r 27	22	29	35	38
Total Bachelor Degrees Males	r 272	r 307	r 344	r 368	390	357
Females	r 155	r 168	r 193	r 207	243	202
Persons	r 427	r 475	r 537	r 575	633	559

(a) Excludes honorary degrees.

(b) Bachelor degrees include bachelor degrees with honours.

*Residential Colleges*

There are five residential colleges in the University. Christ College was affiliated with the University in 1933, moved to new premises on the University Campus at Sandy Bay in 1962 and provides accommodation in single study-bedrooms for 138 male and female students, eight tutors and a deputy warden. Hytten Hall was opened in 1959 accommodating 124 male students. Extensions have raised this figure to 193 male students with 79 accommodated in single study-bedrooms and the remainder in double rooms. St John Fisher College, opened in 1962, accommodates 84 male students and 2 priests in single study-bedrooms and is under the direction of the Catholic Church. Jane Franklin Hall was founded by the Tasmanian Council of Churches in 1950 as a hall of residence for women students. The Hall provides accommodation for 150 students. Ena Waite Women's College was founded in 1968 and accommodates 24 female students.

*Buildings*

The University site at Sandy Bay was chosen in 1944. Until 1957 temporary huts were used extensively, mainly by the rapidly growing science departments. In 1957 the first permanent building was erected and by 1973 all departments of the eight faculties were housed in permanent buildings.



In 1975, the gymnasium and cosmic ray observatory were completed. The campus heating system extensions have not yet been completed, part of the delay being caused by strikes. A computer centre and a child care centre were also completed in 1975. The extensions to the Arts/Commerce/Education building and the new teaching centre should be completed in 1976.

## AUSTRALIAN GOVERNMENT ACTIVITIES IN EDUCATION

### Introduction

The federal Constitution gives the Australian Government responsibility for providing educational services in the Australian territories while leaving state governments with responsibility for the provision of educational services within their state boundaries. However, in recent years the Australian Government has provided increasing financial assistance to the states for education. The states have not had the resources to finance the large-scale, rapid development of their educational services required as a result of demand for better facilities and population growth.

The Australian Government first became directly involved in education when it established an Office of Education in 1945 and a branch was opened in Hobart. However, education remained a state responsibility—the principal functions of the Australian Government's Hobart office were migrant education and administration of Australian Government university scholarships. In 1951 the Hobart office was closed and its functions transferred to the Tasmanian Department of Education which acted as an agent for the Australian Government. With increased financial involvement in education the Hobart office was re-opened in 1964. However, education was still primarily a state responsibility.

With the advent of a federal Labor Government in December 1972 Australian Government involvement in education increased considerably: the Schools Commission was established to advise the Government about the needs of Australian schools and to establish priorities for satisfying those needs, the Interim Committee for the Children's Commission was appointed to administer the Government's Childhood Services Program of pre-schools and childcare facilities, and the Technical and Further Education Commission and the Curriculum Development Centre were established as statutory authorities. The portfolio of the Australian Minister for Education includes the Department of Education, the Universities Commission, the Commission on Advanced Education, the Technical and Further Education Commission, the Schools Commission, the Curriculum Development Centre, the Commonwealth Teaching Service and the Interim A.C.T. Education Authority. From 1 January 1974 the Australian Government assumed full responsibility for financing tertiary education.

### Department of Education

The Australian Department of Education is responsible for advising the Australian Government on education and its activities include: planning and evaluating the effective use of resources in Australian education, undertaking and commissioning educational research, advising the Government on participation in education at the international level, responsibility for Australian activities in relation to UNESCO and OECD and the administration of schemes of student assistance. The Department also provides policy advice on the development of proposals for curriculum development, the education of Aborigines and related matters. It was instrumental in fostering the establishment and development of the Australian Government's Curriculum Development Centre. The Department

is responsible for English courses for child and adult migrants, the conduct of research into, and the production of materials for, the teaching of English as a foreign language. It is also responsible for the administration of education in the Northern Territory and technical and further education in the Australian Capital Territory. Close working relationships are maintained with the Interim A.C.T. Education Authority and the Commonwealth Teaching Service.

Secretariat services are provided to a number of advisory bodies including the following:

*Australian Council on Awards in Advanced Education:* The Council was established in 1971 to promote consistency in the nomenclature used for awards in advanced education and in establishing consistency between the courses and their associated awards.

*Australian Advisory Committee on Research and Development in Education:* This Committee was established in 1970 to advise the Minister on priorities in educational research, to recommend the award of research grants and to propose measures for the training of research personnel. The first of the Committee's awards of Educational Research Scholarships and Educational Research Fellowships were made in 1975.

*National Committee on Social Science Teaching:* The Committee was formed in 1970 at the request of the state Directors General of Education to stimulate the development of social science education in secondary schools. It has examined the need for the national production of curriculum materials for social science subject courses and as a result of this survey a major curriculum development exercise, the Social Education Materials Project, was undertaken. The Committee provides grants for research into social science education and organises conferences.

*Asian Studies Co-ordinating Committee:* The Australian Education Council (comprising the Australian and state Ministers for Education) established this Committee in 1972 to administer a joint Australian-state government program to initiate and develop the teaching of Asian languages and courses about Asia in Australian schools. To achieve its objectives the Committee has encouraged the development of a wide range of teaching materials and has provided grants to tertiary institutions for additional teacher education programs in Asian Studies. Its Travel Grants Scheme has enabled teachers of Asian studies to travel to Asia. The Committee is chaired by an officer of the Department.

*Committee on the Teaching of Migrant Languages in Schools:* This Committee was set up in 1974 to make recommendations to the Minister on the teaching of the languages of migrant groups in primary and secondary schools. It is chaired by an officer of the Department.

*National Committee on English Teaching:* The Committee was set up in 1974 to: promote research and experiments in order to facilitate development of curricula and associated materials; collect, exchange and disseminate information on developments in the teaching and learning of English in Australia; and to consider the education of teachers of English.

### Children's Commission

The Interim Committee for the Children's Commission was established in October 1974, to administer programs of assistance which provide for the care and development of young children before they reach school age, and of older children outside school hours. The legislation to establish the Children's Commission was passed by federal Parliament on 4 June 1975.

By supporting a variety of programs carried out both through state governments and, directly, by local government and community groups, the Children's Commission aims to help families provide adequately for the needs of their children. The Commission also aims to provide a comprehensive integrated approach to children's services which will include family day-care programs, pre-schools, playgroups, after school and holiday care programs, occasional care and emergency care. The emphasis will be on providing services to help people join together to make the best use of existing facilities for children.

### **The Australian Schools Commission**

On 12 December 1972 the Prime Minister appointed the Interim Committee for the Australian Schools Commission (Karmel Committee) to examine government and non-government primary and secondary schools throughout Australia and to make recommendations on: (i) the immediate financial needs of schools; (ii) priorities; and (iii) appropriate measures to meet the needs. The Committee presented its report to the Federal Minister for Education on 18 May 1973.

The Federal *Schools Commission Act* 1973 received royal assent in December 1973 and the Schools Commission was established; the Commission took over the work and functions of the Interim Committee. Recommendations of the Committee were embodied in the 1973 Act and the Commission's functions were set out as follows in the legislation:

- (i) Determine acceptable standards for primary and secondary schools and recommend means of achieving the standards.
- (ii) Inform the Minister on the needs of primary and secondary schools throughout Australia.
- (iii) Recommend to the Minister levels of financial grants to assist schools and school systems.
- (iv) Advise the Minister upon any subject relating to primary and secondary education referred to it by the Minister or upon which the Commission considers it desirable to advise the Minister.
- (v) Enhance access to education and equality of opportunity within schools. Special regard is to be given to handicapped and disadvantaged children and youth.
- (vi) Stimulate public awareness of and support for education.
- (vii) Encourage diversity and innovation in schools, curricula and teaching methods.
- (viii) Undertake and/or commission research into education.
- (ix) Promote economic use of educational resources.
- (x) Investigate the desirability of providing special educational opportunities for students who have demonstrated their abilities in particular fields.
- (xi) Report annually to the Minister.

As part of its 1975-76 Budget strategy, the federal Government announced a pause in the triennial progression of funding for the Schools Commission program. Calendar year 1976 was declared an 'interim' year and the Commission was asked to produce new proposals for the triennium 1977-79. (The *State Grants (Schools) Act* 1973-74 had provided funds up to 31 December 1975. Details of funds allocated for 1974 and 1975 are given in the 1975 *Year Book*.)

*Recommended Grants for 1976:* The table below shows details of the allocation of funds for the Schools Commission's 1976 program as recommended in the 'Schools Commission Report for 1976' (published in October 1975). Legislation approving the recommended grants for 1976 was expected to be passed by federal Parliament before the end of 1975.

**Grants Recommended by the Schools Commission for the 1976 School Program**  
(\$'000)

Program	Total allocation for Australia	Allocation for Tasmania		
		Government schools	Non-Government schools	Total
General recurrent grants .. ..	295 612	4 512	2 660	7 172
Disadvantaged schools .. ..	15 600	280	40	320
Special education .. ..	11 188	320	..	320
Capital grants .. ..	(a) 121 805	(b) 2 850	(c) 457	3 307
<b>Total .. ..</b>	<b>(a) 444 205</b>	<b>(b) 7 962</b>	<b>(c) 3 157</b>	<b>11 119</b>
		All schools (d)		
Special education—				
Training .. ..	782		29	
Replacement .. ..	5 770		213	
Development activities—				
Training .. ..	6 083		227	
Replacement .. ..	1 918		69	
Education centres (e)—				
General support .. ..	860		(e) ..	
Facilities .. ..	400		(e) ..	
Special projects (e) .. ..	5 187		(e) ..	
<b>Total .. ..</b>	<b>21 000</b>		<b>538</b>	
<b>Total all programs</b>	<b>(a) 465 205</b>		<b>(b) 11 657</b>	

(a) Includes \$45m provided under the States Grants (Schools) Act 1973-74.

(b) Includes \$1 279 000 provided under the States Grants (Schools) Act 1973-74.

(c) Includes \$229 000 provided under the States Grants (Schools) Act 1973-74.

(d) Programs available for all schools.

(e) Funds to be disbursed in accordance with priorities determined by the Commission.

*School Libraries:* In August 1968 the Australian Government commenced an assistance program for secondary school libraries. Funds were made available for: (i) the erection, alteration and extension of library buildings; and (ii) provision of furniture, equipment, a basic book stock and instructional materials. During the first triennium, 1969-1971, Tasmania received \$290 900. In December 1971 this program was extended for a further three years; Tasmania's annual allocation under this scheme was \$352 241 (comprising government schools \$285 506 and non-government schools, \$66 735). Under the federal *States Grants (Schools) Act* 1973 further funds were allocated for both secondary school and primary school libraries for expenditure during 1974 and 1975. Tasmania's allocation from the additional fund was: government schools—secondary, \$640 000, primary, \$510 000; non-government schools—secondary, \$70 000, primary, \$80 000. As well as the library development programs funds have also been provided to finance extended librarian training courses for both primary and secondary schools. Finance was also provided to pay for salaries of replacement staff for those attending librarian training courses. Tasmania's allocation was \$140 000 comprising \$40 000 for librarian training and \$100 000 for replacement staff salaries.

*Per Capita Grants:* The following table shows the level of per capita grants received by non-government schools (excluding systemic Catholic schools) for recurrent expenditure. (Catholic systemic schools (i.e. primary parish and some diocesan run secondary schools) received an allocation of \$1 210 000 for 1974 and 1975.)

**Per Capita Grant Levels: Non-Government Schools (a)**  
(£)

School category	Primary schools	Secondary schools	School category	Primary schools	Secondary schools
A .. ..	55	85	E .. ..	75	110
B .. ..	60	90	F .. ..	80	120
C .. ..	65	95	G .. ..	85	130
D .. ..	70	102	H .. ..	90	140

(a) Catholic systemic schools are excluded from the per capita grant scheme.

*Teacher Development Program:* Teachers' centres were established in Hobart, Launceston and Burnie. Special in-service training courses have been prepared and run.

*Special Projects (Innovation Program):* Fourteen such projects were offered grants totalling \$82 000. Projects include both government and non-government proposals.

### Migrant Education

*Child Migrant Education:* Under this scheme, which commenced in April 1970, the Australian Government provided finance for both government and non-government schools for: (i) salary costs of teachers and supervisory staff involved in teaching English to migrant pupils; (ii) provision of approved language teaching equipment; (iii) provision of appropriate teaching and learning materials; (iv) special training courses for teachers in methods of teaching English as a foreign language; and (v) provision of emergency classroom accommodation during the financial years 1973-74, 1974-75, and 1975-76. Except for one non-government school at Launceston, children attend classes run in government schools—centres have been established for Hobart, Launceston, George Town, New Norfolk, the North-West Coast and the West Coast. At 30 June 1975 the number of teachers involved was 29 and the number of children attending the classes was 771.

*Adult Migrant Education Program:* For many years the Australian Government has provided adult migrants with the opportunity to learn English and also something of the Australian way of life. This has been done mainly through part-time evening classes, and to a lesser extent through radio and correspondence courses. The program commenced in 1947 and since 1951 has been a joint effort by the Australian Government and the states. At the present time, following a series of agreements reached between the Australian Government and the states in 1951, the Australian Government retains overall responsibility for the program while administrative control of migrant teaching activities is in the hands of the states. Recent developments in the program have been the establishment of full-time courses and the payment of a living allowance to students attending these courses which include courses in industry, a home tutor scheme and a television migrant education program in colour. During the 1974-75 financial year the total expenditure on the adult program in Australia was just over \$5.88m. At 30 June 1975, 25 migrant continuation classes were operating in Tasmania for 186 students. A

further 51 students were enrolled in the correspondence course, 80 students per year were attending full-time accelerated courses and 18 migrant women were receiving one-to-one instruction in their homes under the Home Tutor Scheme.

### Tertiary Education

#### *Commission on Advanced Education*

This Commission provides the Australian Government with information and advice with a view to promoting the balanced development of tertiary education outside the university system in Australia. In particular, the Commission advises the Government in connection with grants for capital and recurrent purposes made to institutions and to the states for advanced education (other than at universities).

#### *Colleges of Advanced Education*

Assistance for state colleges of advanced education commenced in March 1965 when the Australian Government agreed, as an interim measure, to make capital grants totalling \$5m during the remainder of the 1964-1966 triennium. Grants for recurrent expenditure were made from the beginning of the 1967-1969 triennium. These grants were subject to a matching formula—for recurrent expenditure the basis was \$1 by the Australian Government for each \$1.85 provided by the states; capital expenditure grants were on a dollar for dollar basis.

From 1 January 1974 when the Australian Government assumed full financial responsibility for tertiary education, the matching arrangements ceased to have effect, all tuition fees were abolished and additional provision was made in both the capital and recurrent programs for cost increases which were not foreseen when the programs were formulated.

For the 1973-1975 triennium the total provision by the Australian Government for the Tasmanian College of Advanced Education was \$22.5m comprising \$14.6m for recurrent expenditure, \$7.8m for capital purposes and \$0.1m for library materials. The following table sets out Australian Government expenditure on advanced education in Tasmania:

Australian Government Expenditure on Advanced Education in Tasmania  
(\$'000)

Purpose of expenditure	1969-70	1970-71	1971-72	1972-73	1973-74 (a)	1974-75 (a)
Recurrent .. .. .	397	754	887	r 1 128	r 3 959	6 888
Capital (b) .. .. .	1 047	614	2 035	1 425	292	2 968

(a) From 1 January 1974 the Australian Government assumed full responsibility for financing tertiary education.

(b) Includes the following payments made under States Grants (Teachers Colleges) and (Pre-School Teachers Colleges) Acts (\$'000): 1969-70, 370; 1970-71, 100; 1971-72, 650; 1972-73, 250; 1973-74 and 1974-75, nil.

#### *Australian Universities Commission*

This Commission's main function is to study and to advise the Australian Government on the needs and problems of universities and further, to advise the Government on financial assistance to, and the development of, Australian universities. Another function is the promotion of balanced development of universities so that their resources can be used to the greatest possible advantage of Australia.

Assistance to the States for the recurrent expenditure of universities dates from 1951-52. Grants were made on a matching basis (one dollar for each \$1.85 of state expenditure). Assistance for capital purposes was provided on a dollar for dollar basis, however, from 1 January 1974 the Australian Government alone has financed universities and other tertiary education. The next table shows Tasmanian receipts from the Australian Government for university education:

**Australian Government Payments to Tasmania for University Education**  
( '\$000)

Purpose of expenditure	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74 (a)
Recurrent .. .. .	1 315	1 504	1 818	2 105	2 530	(b) 5 830
Capital .. .. .	902	757	429	665	842	(b) 1 229

(a) Estimate.

(b) From 1 January 1974 the Australian Government accepted full responsibility for financing tertiary education.

### Technical and Further Education Commission

In April 1973, the Australian Committee on Technical and Further Education was established to examine and make recommendations on technical and further education (TAFE) in Australia. Included in its scope were assessment of needs, priorities, the amount and allocation of financial assistance and conditions upon which assistance should be granted. The Committee produced two reports, the first recommending, inter alia, financial grants to the states for capital and recurrent expenditure on technical and further education over the period July 1974 to December 1975, whilst the second recommended further grants to cover the remainder of the triennium, i.e. to 30 June 1976.

The Technical and Further Education Commission was established in July 1975. The Commission is responsible for the administration of Australian Government funds provided under the States Grants (TAFE) legislation and for providing advice to the Minister on the general development of TAFE in Australia, on the needs and priorities in the provision of facilities, on desirable standards for these facilities and on financial assistance to the states for and in respect of institutions of TAFE.

#### Technical Education

The *States Grants (Technical and Further Education) Act* 1974 provided a total of \$107.84m for expenditure over a two-year period, 1 July 1974 to 30 June 1976. Of this sum Tasmania was allocated \$3.26m comprising \$1.84m for capital expenditure (on land and buildings \$0.78m, on equipment and minor works \$1.06m) and \$1.42m for recurrent expenditure.

In keeping with Government policy, fees at technical institutions were abolished on 1 January 1974. This led to \$10.27m (Tasmania \$0.12m) being provided to the states under the *States Grants (Technical Training Fees Reimbursement) Act* 1974.

Payments to Tasmania for technical education in recent years have been: 1970-71, \$0.33m; 1971-72, \$0.38m; 1972-73, \$0.38m; 1973-74, \$0.69m; 1974-75, \$0.90m; 1975-76 (estimate), \$2.41m.



### Australian Government Assistance for Tertiary and Secondary Students

*Assistance for Isolated Children:* This scheme provides financial assistance to enable children living in isolated areas to have improved educational opportunities. Benefits are available for pupils who must live away from home to attend school and those studying through state educational department correspondence schools. At 30 June 1975 there were 806 Tasmanian students receiving this assistance.

*Tertiary Education Assistance Scheme:* This scheme provides means-tested (non-competitive) allowances to full-time, unbonded students attending approved courses at tertiary institutions. The scheme, previously known as the Tertiary Allowances Scheme, replaced the former competitive Commonwealth University, Advanced Education and Technical Scholarship Schemes. In Tasmania, 1 668 students were receiving tertiary allowances at 30 June 1975. Benefits included an allowance, subject to the means-test, of up to \$1 000 per annum for a student living with his parents; or up to \$1 600 for an independent student or a student living away from home. Allowances were also payable to assist with student union and other incidental fees. The following incidentals allowances were paid in 1975: for students enrolled at universities, \$100; for students at colleges of advanced education, \$70; and for students at technical colleges, \$30. The introduction of the Tertiary Education Assistance Scheme, together with the abolition of compulsory tuition and associated fees at tertiary institutions, form part of the program by which the Australian Government assumed full responsibility for financing Tertiary education.

*Pre-School Teacher Education Allowances Scheme:* Awards are made annually to students to train as pre-school teachers. Unbonded trainee teachers who qualify for assistance under this scheme may receive an allowance, free of means-test, of \$1 000 per annum if they live with their parents or \$1 600 per annum if they must live away from home. (At 30 June 1975, five students in Tasmania were receiving assistance under this scheme.)

*Adult Secondary Education Assistance Scheme:* In 1975 the Australian Government introduced a scheme of assistance for adult students who have had a break from secondary studies and have returned to undertake final year secondary or matriculation studies at secondary schools, technical colleges and other approved institutions. Students eligible for benefits can qualify for an allowance, subject to a means-test, of up to \$1 000 per annum for a student living with his parents, or up to \$1 600 for a student who is independent or living away from home. As at 30 June 1975, 37 Tasmanian students were receiving such benefits.

*Commonwealth Senior Secondary Scholarship Scheme:* This scheme provided to senior secondary students a two-year scholarship to assist them with study for the Higher School Certificate examination. Benefits comprise a basic allowance subject to family income, of \$250 per annum. It was announced that no new awards would be offered under this scheme after 1974. At 30 June 1975, 670 Tasmanian students were receiving assistance under the scheme.

*Secondary Allowances Scheme:* In 1974 the Australian Government introduced a scheme of assistance for families with limited financial resources to maintain their children at school for the final two years of secondary education. Benefits of up to \$450 per annum are provided on a non-competitive basis subject to family income. In Tasmania 200 students were receiving this assistance at 30 June 1975.

*Australian Government Post-graduate Awards:* Awards are made annually to enable students to undertake post-graduate studies at an Australian university or college of advanced education. In Tasmania, in 1975, 18 new awards were made available for university studies and four awards were made for master's studies at a college of advanced education. Selection is made on the basis of ranking by each university or college of advanced education and the award, subject to annual renewal, may be held for a maximum of: (i) four years in the case of a doctorate degree candidate; (ii) two years in the case of a master's degree candidate; or (iii) for the duration of the course taken (normally one or two years) for course work awards. In 1975 award holders received a living allowance of \$3 950 per annum. Provision is also made for assistance with travel, establishment and thesis costs and married award holders receive a dependants' allowance for a dependent spouse and children.

*Aboriginal Grants Schemes:* The Department of Education administers, on behalf of the Department of Aboriginal Affairs, two schemes of assistance for students of Aboriginal descent: (i) the Aboriginal Study Grants Scheme; and (ii) the Aboriginal Secondary Grants Scheme. Aboriginal study grants were first awarded in 1969; they assist Aborigines to take study courses after leaving school and provide the full-time student with fees and a living allowance, which for married students or students 21 and over is \$44 per week while various rates apply for unmarried students under 21. Other special allowances are also payable. Part-time students receive fees and incidental expenses. The Aboriginal Secondary Grants Scheme was introduced in 1970 to assist students to continue schooling beyond the age of 14. In 1973 this assistance was extended to all Aboriginal pupils enrolled in secondary schools. Benefits cover annual living costs, fees and other allowances.

*Scholarships for Graduate Diploma Study in Recreation:* The first awards under this scheme were offered by the Australian Government in 1975 to assist people to train as professional recreation workers. Allowances under this scheme are free of any means-test and are similar to those offered under the Tertiary Education Assistance Scheme.

The next table shows the number of students in Tasmania receiving Australian Government assistance under the various schemes:

Number of Students in Tasmania Receiving Australian Government Assistance at 30 June

Scheme	1971	1972	1973	1974	1975
Tertiary education assistance	..	..	..	1 460	1 668
University .. ..	865	916	920	..	..
Advanced education .. ..	174	220	359	..	..
Technical .. ..	124	97	108	29	12
Secondary .. ..	559	560	274	2	..
Adult secondary .. ..	..	..	..	..	37
Senior secondary .. ..	..	..	739	1 341	670
Secondary allowances .. ..	..	..	..	164	200
Post graduate .. ..	46	52	52	50	54
Aboriginal secondary .. ..	8	32	140	241	313
Aboriginal study .. ..	1	3	7	16	11
Isolated children .. ..	..	..	805	603	806
Other (a) .. ..	30	32	55	37	23
Total .. ..	1 807	1 912	3 459	3 943	3 794

(a) Includes National Service Vocational Training Scheme, Pre-School Teacher Trainees (from 1973) and Australian Government Teaching Service Scheme.

## STATE LIBRARY OF TASMANIA

## General

The present State Library Service dates from the *Libraries Act* 1943. This legislation made provision for: (i) establishment of a State Library; (ii) constitution of a Tasmanian Library Board which would be responsible for management and development of library services in the State; and (iii) co-ordination of various library services then subsidised by the State Government. The system now has major libraries in three centres: Hobart (location of the principal library and headquarters for the library service), Launceston and Burnie. In addition branch libraries are located in a number of smaller towns.

The next table gives selected statistics for the State Library of Tasmania:

State Library of Tasmania: Selected Statistics

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
EXPENDITURE (\$'000)					
Salaries and pay-roll tax .. .. .	483	573	727	957	1 703
Purchase of books, etc. .. .. .	257	304	364	390	588
Grants to municipalities .. .. .	55	29	..	..	..
Other .. .. .	101	104	207	273	471
Total expenditure .. .. .	896	1 011	1 298	1 620	2 762
BORROWING: BOOKS, FILMS AND RECORDS ('000)					
Books borrowed—					
Adults .. .. .	2 260	2 317	2 299	2 279	2 547
Children .. .. .	1 240	1 319	1 343	1 126	1 156
Total .. .. .	3 500	3 636	3 642	3 405	3 703
Films borrowed .. .. .	17	13	13	10	11
Records borrowed .. .. .	49	51	105	161	231

## Receipts

An annual appropriation is made from the Consolidated Revenue Fund to cover the operational expenses of the State Library. The 1974-75 vote was \$2 762 000. The next main revenue item is local government contributions.

## Organisation

Currently library services are administered from three centres (Hobart, Launceston and Burnie). The following sections outline the facilities provided from each centre.

## Hobart

Hobart, headquarters of the State Library, is the location for the following major State Library departments:

*State Reference Library:* Provides reference and information facilities for the general public and industry, and contains a bookstock of approximately 171 000 books, periodicals, pamphlets, maps, etc. Special sections of this department house unique collections of books, documents etc. relating to Tasmania. Collections

include: (i) the Tasmanian Collection—a definitive collection of books published in Tasmania; (ii) the W. E. Crowther Library—a large research collection of books, pamphlets and other items relating to Tasmania and Australia; and (iii) the Allport Library and Museum of Fine Arts—comprises a collection of antique furniture, china, glass, silver, pictures, prints and rare books in fine editions.

*Archives Office:* The *Archives Act* 1965 made this library department the official repository for all official State Government records. A considerable quantity of private records of individuals, companies, associations, societies and institutions is held as well as official records.

*Division of Unregionalised Services:* This division supplies books and other library materials to, and co-ordinates library services in, those libraries which are not yet part of the regional library system. There are over 40 of these libraries.

*Hobart Lending Library:* Provides a book lending service for adults and children. Approximately 107 000 volumes are held in this collection.

*Films and Recorded Music Library:* Contains over 5 000 films and almost 50 000 gramophone records and 8 000 cassette tapes. Films and records are available for borrowing by individuals and organisations.

### *Regional Libraries*

There are two operating regional library systems in Tasmania—their headquarters are at Launceston and Burnie. It is planned to regionalise the whole State into a total of six library regions by 1978.

*Launceston:* Headquarters of the Northern Regional Library Service are located at the new Launceston regional library building which was opened in mid-1971. The Northern Regional Library Service serves the City of Launceston and Municipalities of Beaconsfield, Campbell Town, Deloraine, Evandale, Fingal, Flinders, George Town, Launceston, Lilydale, Longford, Portland, Ringarooma, Ross, St Leonards, Scottsdale and Westbury. Branch libraries are located in small towns of the region; rural areas are served by two bookmobiles.

*Burnie:* The Hellyer Regional Library Service comprises the Municipalities of Burnie, Circular Head, Penguin, Waratah and Wynyard and was inaugurated in 1965. A central library for the regional service is located at Burnie. Reference, lending, bookmobile and external services are provided for the region. A new regional library headquarters building was opened at Burnie in January 1975.

## ASTRONOMY IN TASMANIA

*The following article was contributed by Dr M. D. Waterworth, Physics Department, University of Tasmania*

### Introduction

No one who looks at present-day studies of the universe can fail to be impressed by the remarkably detailed foundation of theory and fact that has been established, nor by the soaring, imaginative structure erected on top of it. Consider some of the questions that astronomers and cosmologists are now asking: How big is the universe? What is its shape? When did it start? When, where and how was its matter manufactured? Was all its material present at the beginning or is it being continuously created? These are no longer mere expressions of child-like curiosity. They are meaningful queries to which science expects—and is getting—answers.

It is now generally agreed that the universe is expanding; that groups of galaxies are rushing away from each other with speeds which increase with the separation between them. There is, however, a sharp division of opinion as to the history of this expansion. One school holds that it started at a definite moment, some five or six billion years ago, with the explosion of a super-dense blob containing all the matter in the universe. The other view is that the expansion has always been going on at just its present rate, and that it will continue to go on for evermore with new matter being continually created to replace the old matter that is moving away.

The first, or evolutionary, theory is expounded by George Gamow. He discusses the various possible forms of an evolving universe. It may be closed and finite or open or infinite. It may have 'begun' in an infinitely expanded state in the infinite past, contracted once to a minimum size and then started to expand again; alternatively, it may have contracted and expanded cyclically an indefinite number of times. The second view is put forward by Fred Hoyle, one of its leading exponents. He demonstrates the mathematical logic behind the rather startling steady-state theory, and explains how the question may soon be decided.

One of the pieces of evidence that will help settle the matter is the red shift, from which the fact of expansion was deduced. The more distant the galaxy, Allan R. Sandage explains, the farther its light is shifted toward the red end of the spectrum. This shift is interpreted as a Doppler effect, which means that the source of light is moving away from the earth. Still to be determined is the relation between distance and velocity for very remote galaxies. The light from these galaxies takes a billion years or more to reach us, and so we see them as they were a billion years ago. If their velocity is proportionately greater than for nearby galaxies, this will indicate that the expansion of the universe is slowing down, which would mean an evolving system rather than a steady state.

Another test depends on the density of galaxies. If they were closer together a billion years ago than they are now, the universe must be evolving. Jerzy Neyman and Elizabeth L. Scott describe how the comparative densities can be determined through statistical analysis. Martin Ryle tells us that radio signals will enable astronomers to extend their tests to much greater distances than those accessible to optical telescopes.

The modern cosmologist has a great deal of solid observational evidence to work with, but he is still forced to make rather sweeping assumptions. In particular, he must believe that the section of the universe he can see is a fair sample of what lies beyond his view.

### **Present Day Astronomy in Tasmania**

Based on the Introduction above, one could easily be led into believing astronomy to consist very largely of optical astronomy. This may have been so in the early days, but is by no means true today. Astronomy today deals with radiation at wavelengths in the range from less than  $10^{-10}$  cm to  $3 \times 10^4$  cm (from X-ray astronomy to long wavelength radio astronomy). In Tasmania work is carried out in the wavelength range  $10^{-8}$  cm to  $3 \times 10^4$  cm, covering X-ray astronomy, cosmic ray astronomy, optical astronomy and radio astronomy. In reporting on activities here, one must therefor cover all these branches of the subject. What follows then, is a description of activities in these branches.

It should be emphasised that the individual branches of astronomy are not separate entities. The results obtained from, say, radio astronomical measurements are co-ordinated with results from other wavelength regions, and in many cases

this leads to a greater understanding of what is going on. I believe this to be a strong factor in Tasmania's advantage, since most of the work here is carried out by members of the one institution, the University of Tasmania.

### *Radio-Astronomy*

Tasmania is particularly suitable for observing extra-terrestrial radio sources at the longer radio wavelengths ( $2 \times 10^3$  cm to  $3 \times 10^4$  cm) which are normally prevented from reaching the ground in most parts of the world owing to the opacity of the earth's upper atmosphere to such signals. However, a region of low ionospheric electron density exists at middle latitudes in the Southern Hemisphere in a band roughly concentric with the south Geomagnetic pole. This mid-latitude ionospheric trough passes over Tasmania during the winter in years of low sunspot activity and allows observation of the lower frequency signals which otherwise can only be made using radio-telescopes in space. The telescopes themselves need to be large in size (about 1 km) in order to discriminate between different sources, and so far have been practicable to construct only on the ground.

Over the past 20 years, a number of low frequency radio telescopes have been built in Tasmania to take advantage of this natural facility. The latest instruments are the University of Tasmania 650 m  $\times$  650 m Llanherne array operating between 2 MHz and 20MHz and the 1 km diameter 1.1 MHz Bothwell array (Dr G. Reber). There are also two other telescopes operating in the 40-2 000 MHz range at Llanherne. These are the 170 m  $\times$  85 m broadband array and the 15 m parabolic telescope.

The observational program includes investigations of the radio emissions of our galaxy and of extra-galactic sources, of pulsars, and of solar system sources such as the Sun and the planet Jupiter. The two low frequency telescopes, which are the largest of their type, are used mainly for observing the galactic radio emissions which are strongly absorbed at long wavelengths by interstellar ionised hydrogen regions. The detection and location of these regions provides basic information on the structure and evolution of the galaxy. The 650 m  $\times$  650 m telescope is also by far the most powerful so far used to record the radio emissions of Jupiter and very large amounts of data on the properties of these signals and of the radiation and magnetic environment of Jupiter have been obtained.

Investigations of the galactic pulsating radio sources are being made on the same telescope and, in addition, a novel technique based on two-dimensional Fourier Transforms has been developed to detect previously unknown pulsars. This has been used with the 65 m C.S.I.R.O. Parkes radio telescope to discover nine new pulsars, and in the near future will be used with the 170 m  $\times$  85 m Llanherne telescope. The large size of the Tasmanian telescopes permits a high rate of data acquisition and the solar, Jupiter and pulsar radio observations are aimed at the investigation of their fine time structure and at understanding the corresponding radio emission phenomena.

### *Cosmic Ray Research*

The first studies of cosmic rays in Tasmania were made by Professor A. L. McAulay and Miss N. L. Hutchison at the University of Tasmania, the results of the work being presented to the Royal Society of Tasmania in December 1924 in a paper entitled 'The Penetrating Radiation in the Atmosphere at Hobart'.

In 1946 further studies were commenced by Dr A. G. Fenton at the then new site for the Physics Department at Sandy Bay. A grant from the Electrolytic Zinc Company provided the funds for the early experiments. Others who were involved in the first few years of these investigations were Dr D. W. P. Burbury, Dr. K. B. Fenton, Dr N. R. Parsons and Dr R. M. Jacklyn. By 1949, with renewed

Australian interest in the Antarctic, the University group, in co-operation with the Antarctic Division of the Department of External Affairs, constructed equipment for operation at Macquarie Island. This was installed on the island in 1950 and various cosmic ray experiments were conducted there until the building was destroyed by fire in 1959. Larger equipment was designed and built at Hobart and, by the time the Australian base at Mawson on the Antarctic Continent was ready to commence its scientific program in 1955, some of the largest cosmic ray detectors in the world were installed there.

In 1956 a recorder was installed near The Springs on the slopes of Mt Wellington to take advantage of the increased altitude. This recorder was destroyed in the bush fires of 7 February 1967, and has since been replaced by a larger recorder at the same site. During the International Geophysical Year 1957-58, cosmic ray recorders were operated by the Hobart group at Lae (New Guinea), Hobart, Macquarie Island and Mawson. Later, a recorder from Sydney University was handed over to the Hobart group and, after rebuilding, this was installed in Brisbane. Following the fire at Macquarie Island, it was decided to transfer cosmic ray recording operations to Wilkes on the Antarctic Continent because of its close proximity to the geomagnetic South Pole.

In 1958 underground measurements were commenced for the purpose of extending observations to much higher energies. For these, the tunnel on the disused Sorell railway near Mt Rumney has proved suitable and the measurements are being continued at the present time. In 1971 even deeper measurements were commenced at the Hydro-Electric Commission's underground power station at Poatina where the overburden is about 150 metres of rock (compared with about 15 metres at the tunnel).

During 1959 measurements were commenced using small balloons launched from the University. These high altitude observations were later extended, often in co-operation with other bodies, to Macquarie Island and Wilkes in the Antarctic, as well as to Mildura, Brisbane, Lae and Hyderabad to take advantage of the greatest possible range of geomagnetic latitudes. Measurements were also made on aircraft through the co-operation of the Royal Australian Air Force during the International Geophysical Year 1957-58.

In 1971 the University was host for the 12th International Conference on Cosmic Rays. On this occasion delegates from many parts of the world held their first such meeting in the Southern Hemisphere.

Cosmic rays are now known to consist of high energy atomic nuclei (mainly hydrogen nuclei or protons), with energies extending up to more than  $10^{20}$  electron-volts. There are also high energy electrons as well as X-rays and gamma-rays. It is not known with certainty where the particles originate and one of the principal objectives of research in Tasmania, as well as elsewhere in the world, is to obtain information concerned with this problem. Because the particles carry an electric charge, they are deflected by magnetic fields, which are known to pervade all of our Galaxy, and consequently the direction of arrival of a cosmic ray particle at the Earth gives no clue as to the direction of its source except at the very highest energies. However, it is believed that some cosmic ray particles are accelerated during supernova outbursts which occur from time to time in the Milky Way Galaxy and in other galaxies.

The Sun occasionally produces bursts of energetic particles during periods of solar activity. Several of these have been observed by the network of recorders operated by the Hobart group. The Sun also effects the cosmic rays of galactic origin, and the study of this effect is one of the main research topics of the Hobart



group. It is now known that a continual stream of hot gas leaves the Solar corona in all directions (i.e. the solar wind) and that this has magnetic fields embedded in it. The combination of solar wind and magnetic fields deflects the cosmic ray particles, resulting in fewer being able to penetrate into the solar system during disturbed times than during quieter times. Cosmic ray intensity follows the Sun's 11-year cycle of activity.

The type of equipment used by the Hobart group consists of arrays of Geiger-Muller counters, or similar detectors. Some of these are particularly sensitive to neutrons (which are produced in the atmosphere by cosmic ray particles causing the disintegration of oxygen and nitrogen nuclei). Most of these detectors and the electronic circuits used with them have been designed and built in Hobart.

There were two main reasons why cosmic ray research was initiated at the University. Firstly, it provides a means for training students in some aspects of nuclear and particle physics at much less cost than would be possible otherwise. Secondly, the geomagnetic latitude of Hobart was favourable for some of the early investigations, while, for later ones, the network operated from Hobart played (and continues to play) a vital role in the world-wide network for monitoring cosmic rays.

Although very few direct applications of cosmic rays to the welfare of mankind have emerged so far, the study of cosmic rays has contributed significantly to knowledge about the structure and properties of matter and about the processes by which energy is generated and stored in the Universe.

Financial support for the Hobart group has come from the University of Tasmania research funds, from the Australian Research Grants Committee, from the Antarctic Division (formerly of the Department of External Affairs, now of the Department of Science), and, during the International Geophysical Year, from special funds administered by the Australian Academy of Science.

#### *X-Ray Astronomy*

An important turning point in high energy astrophysics occurred in 1962 when a U.S. group discovered X-rays emanating from star-like objects in the Galaxy. The Hobart cosmic ray group extended its observations into this field in 1966, jointly with the University of Adelaide, where Professor K. G. McCracken, a former member of the Hobart group, was then forming a research group. Through the co-operation of the British Science Research Council, the British Aircraft Corporation and the Department of Supply, space in several Skylark rockets was made available for X-ray detection systems constructed by the Hobart and Adelaide groups. The rockets were launched from Woomera, South Australia.

With the first rocket, launched on 4 April 1967, a new and exciting source was discovered near the Southern Cross and later called Centaurus-XR2. This was a very powerful source, second in intensity to the brightest X-ray source (Scorpius-XR1). Subsequent rocket flights by the joint group and by other observers showed that the new source was diminishing in intensity. This was, thus, the first discovery of a variable X-ray source and the first discovery of what is now called an 'X-ray nova'. The mechanism which operates on an X-ray nova remains unknown.

Altogether the joint group has participated in eight rocket launchings from Woomera, seven being British Skylarks and one an Aerobee on which space was generously made available by the U.S. National Aeronautics and Space Administration. Much detailed information on the properties of X-ray sources was obtained from these flights, supplementing the information obtained by rocket, satellite and balloon by other research groups, particularly in the U.S. and U.K.

It is now believed that some of the X-ray sources consist of two stars in orbit about each other (a binary system) with one of the objects being very highly compressed—a 'compact' object—such as a neutron star or a black hole. A neutron star, for instance, has a mass comparable with that of the Sun but a diameter of perhaps 10 km. Matter passes from the other partner to the compact object and gains such high energy in falling onto it that X-rays are emitted.

### *Optical Astronomy*

Optical astronomy has been carried out in Tasmania for many years, and recently has been undertaken at the University. Many amateur astronomers have made observations in the past with their own small telescopes and to this day the observations are continuing. Interest appears to be growing in this field of astronomy, and much of this growth of interest may be attributed to the ready availability of instruments.

Particular mention should be made of the Amateur Astronomers Association of Tasmania. This is a group of enthusiastic astronomers gathered together in order to discuss their observations, results and problems. One member, Mr C. Bisdee, has been very active within the Society, and the continuing existence of amateur astronomy is due, in no small part, to his efforts. It would be a lengthy procedure to discuss the activities of all amateur astronomers in Tasmania, so this will not be attempted here. I would, however, congratulate them all on their activities, and hope they will continue for many years to come.

Optical astronomy at the University has really existed for the past twelve years or so. The University's association with optics in general, however, dates back many years to the time of the Second World War. At this time, Australia was without its own source of optical munitions. The former Professor of Physics, A. L. McAulay, and his associate, Dr F. D. Cruickshank, were involved in the initial inception of such an industry, and were contracted to design many items of optical equipment for the then Department of Supply. The production of the optical munitions was carried out by the Hobart firm of E. N. Waterworth.

In post war years, work on optical instrumental design was continued by Dr Cruickshank and Mr G. A. Hills, and in the latter stages this work included the design of optics for telescopes. In 1963 work was commenced on the construction of an 0.4 metre optical telescope. The interest taken here in optical astronomy was due largely to the stimulus provided by an American astronomer, Dr Theodore Dunham Jr, who at that time had just retired from a research position at the Australian National University. Interest here in optical astronomy also followed naturally from the University's interest in optics, radio astronomy and cosmic ray astronomy.

The 0.4 metre telescope was entirely designed at the University and all mechanical parts were constructed by University personnel and by local industry. The mechanical design is based largely on the design of the 5.08 metre Hale Palomar telescope. Optics for the telescope were ground and polished by Mr W. E. James, who was employed by the University until 1968. It is interesting to note that both the mechanical and optical construction turned out to be much better than anticipated, so much so that in 1968 it was decided to use the telescope for professional optical astronomical research as well as for the training of students.

It is also interesting to note that Mr James now has a very successful optical business in Victoria—he has secured many contracts which have been tendered on a world-wide basis, not the least of which have been several contracts for the 3.8 metre Anglo-Australian Telescope.

In 1968, following the return of Dr M. D. Waterworth from overseas, the 0.4 metre telescope was installed at the University's observatory site at Canopus Hill (adjacent to Mt Rummey) near Cambridge. The telescope was used initially for direct photographic work and for photometric work. (This is the determination of the 'colour' of a star by measuring the radiation emitted by the star in a number of wavelength intervals: U, ultra violet; B, blue; and V, visual, are three of these wavelength intervals.) Photometric observations permit one to determine the type of star that is being observed and give some information about its temperature, size, age, and stage of evolution.

The 0.4 metre telescope, being a small instrument, is only useful for observations of relatively bright objects in the sky. Astronomers are limited to stars brighter than about 12th magnitude with this instrument, but with a 3.8 metre telescope, for example, one can observe stars of 24th magnitude, this being about 1/250 000 as bright as a 12th magnitude star. For this reason, Tasmanian astronomers make use of facilities at Mt Stromlo Observatory in Canberra, and the Siding Springs Observatory at Coonabarrabran.

From a scientific point of view, many of the photometric observations made with the 0.4 metre telescope are of considerable interest. Observations of variable stars have revealed objects with intensity variations of the order of minutes in some cases and hours in other cases. The mechanisms of these variations is not yet fully understood, and further observations plus theoretical analysis must be carried out.

The photometric work carried out with this telescope includes the determination of the optical radiation from X-ray stars. These stars, in general, emit excessive amounts of radiation in the blue wavelength part of the optical spectrum. Part of the observation of these objects involves the location of the optical object corresponding to the X-ray star. In some parts of the sky this is difficult because of the large number of stars present, and because of the uncertainty of the X-ray star's position caused by instrumental limitation of the X-ray detectors. A further problem is that the X-ray stars are usually relatively faint at optical wavelengths.

Another photometric observation which has been attempted with the 0.4 metre telescope is the optical identification of pulsars. This type of work has been attempted by many astronomers around the world but with very little success. Again the 0.4 metre telescope is too small to detect the optical counterpart of pulsars, assuming that they exist. (The only optical pulsar identified so far has been the Crab pulsar.)

In 1971, a further facet of observation with the 0.4 metre telescope came into operation, namely the spectroscopic observation of stellar objects. The aim of this type of observation is to determine the chemical composition and abundance of elements in stellar atmospheres. This enables one to infer the nuclear reactions taking place beneath the surface of the star and hence lead to a better understanding of the evolution of stars, planets, and man himself.

To obtain the spectrum of a stellar object light from the object is split into its various colours using either a prism or a diffraction grating. In this mode of operation, the telescope acts solely as a collector of light, while the grating, in combination with extra mirrors and lenses, produces the spectrum which is then recorded either photographically or photo-electrically.

The 0.4 metre telescope has been used to obtain the spectra of many stellar objects. Of particular interest has been the study of so-called F-supergiants; these are stars a little younger than the Sun, but are cooler and larger than the Sun.

They do not lie in the normal evolutionary sequence of stars and are therefore of particular interest to astronomers. Many metallic elements, such as Calcium and Iron, appear in the spectrum. Currently spectral observations of O-stars and B-stars are being made. These are much hotter and younger stars than the Sun, and consequently their spectra are more difficult to interpret. Theoretical work done here does, however, promise to help this analysis considerably.

In 1970 work commenced on the design and construction of a 1 metre telescope. Work on this has progressed now to the state where the instrument is now fully operational. Weather conditions, at first sight, may not appear to be sufficiently good to justify the installation of a telescope of this size near Hobart, but it turns out to be a better site than the site at Mt Stromlo, near Canberra, where hitherto most optical astronomy in Australia has been carried out. On the average, Hobart receives 1 350 hours of clear night sky per annum, which enables a lot of observations to be made.

The 1 metre telescope has been entirely designed in Hobart by University personnel, together with much assistance from Mr K. Rhodes of Drafting Services Ltd, Hobart, and Mr H. Newton of Fowler, England and Newton, Hobart. Construction of all the major components has been carried out by the Ordnance Factory in Bendigo, Victoria, and by Rowe Engineering of Hobart. The building to house the telescope has been financed by the Australian Universities Commission.

The 1 metre telescope at Canopus Hill will be used for similar work to the 0.4 metre telescope on the same site, but will be able to observe much fainter objects.

# Chapter 15

## SOCIAL WELFARE AND HEALTH SERVICES

### WELFARE

#### Introduction

In Australia, the principal social welfare benefits are provided by the Australian Government under the *Social Services Act* 1947, as amended, which is administered by the Australian Government Department of Social Security. Finance for the benefits is provided from the National Welfare Fund which is augmented each year from the Consolidated Revenue Fund by an amount equal to the payments made.

State social welfare, which covers child welfare and relief, is administered by the State Department of Social Welfare.

#### Australian Government Department of Social Security

The following table shows expenditure in Tasmania from the National Welfare Fund on benefits under the federal *Social Services Act*. The most noticeable fluctuations occur in expenditure on unemployment benefits.

Social Security Payments Under the Social Services Act  
(\$'000)

Benefit or service	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Age and invalid pensions ..	19 517	21 835	25 543	33 656	35 804	60 118
Widows' pensions ..	2 927	3 327	3 842	5 136	6 582	8 521
Maternity allowances ..	259	274	260	241	230	229
Child endowment (a) ..	7 416	6 686	7 196	8 185	7 212	6 610
Unemployment benefits ..	360	366	966	2 095	3 125	7 746
Sickness benefits ..	199	327	497	792	1 247	1 692
Special benefits ..	68	71	79	128	224	421
Rehabilitation service ..	91	122	130	152	176	369
Funeral benefits ..	42	43	42	44	44	44
Double orphans' pension ..	..	..	..	..	17	43
Handicapped child's allowance ..	..	..	..	..	..	45
Total ..	30 880	33 050	38 556	50 428	54 661	85 838

(a) In 1972-73 five 12-weekly payments, instead of the usual four, were paid.

Federal activity in social services began with the passage of the federal *Invalid and Old Age Pensions Act* 1909. This and the *Maternity Allowances Act* were administered by the Department of the Treasury until 1941 when the Department of Social Services commenced to function as a separate organisation. Later, the functions of the Department were widened with the passing of the *Child Endowment Act*, the *Widows' Pensions Act* and the *Unemployment and Sickness Benefits Act*. A referendum held in 1946 empowered the Australian Government to legislate for the provision of certain social services formerly provided by the states. In 1947, a consolidated *Social Services Act* was passed. Other major Acts administered by the Department include the *Aged and Disabled Persons Homes Act* and the *Handicapped Persons Assistance Act*. It also co-operates with the federal Department of Health in the administration of the *National Health Act*.

On 1 March 1973 the Australian Government transferred the Health Insurance and Benefits Branch from the Department of Health to the Department of Social Security. Provision of hospital, nursing home, handicapped children's, medical and domiciliary nursing care benefits are now the responsibility of the Department of Social Security.

Social Security benefit rates announced at recent budgets are set out in the next table:

**Social Security Benefits, 1973-74 and 1974-75**  
(\$ Per Week Unless Noted as Lump Sum Payment)

Benefit	Maximum rate			
	1973-74		1974-75	
	August budget	Amending legislation (April)	August budget	Amending legislation (April)
Age and invalid pensions and sheltered employment allowances—				
Single person (a) .. .. .	23.00	26.00	31.00	36.00
Married couple (both eligible and living together), each .. .. .	20.25	22.75	25.75	30.00
Married couple (both eligible but living apart through ill health), each (a) .. .. .	23.00	26.00	31.00	36.00
Married couple (one eligible) (a) .. .. .	23.00	26.00	31.00	36.00
Wife (if not a pensioner) (b) .. .. .	20.25	22.75	25.75	30.00
First and each subsequent child under 16 years (c) .. .. .	5.00	5.00	5.50	7.00
Guardian's allowances—				
Where there is a child under 6 years or an invalid child requiring full-time care .. .. .	6.00	6.00	6.00	6.00
Other cases .. .. .	4.00	4.00	4.00	4.00
Maternity allowances (d)—				
No other children .. .. .	30.00	30.00	30.00	30.00
One or two other children .. .. .	32.00	32.00	32.00	32.00
Three or more other children .. .. .	35.00	35.00	35.00	35.00
Multiple births, additional payment for each additional child .. .. .	10.00	10.00	10.00	10.00
Child endowment—				
First child under 16 years .. .. .	0.50	0.50	0.50	0.50
Second child under 16 years .. .. .	1.00	1.00	1.00	1.00
Third child under 16 years .. .. .	2.00	2.00	2.00	2.00
Each other child under 16 years .. .. .	(e)	(e)	(e)	(e)
Student child over 16 years and under 21 years .. .. .	1.50	1.50	1.50	1.50
Orphans' pension .. .. .	10.00	10.00	11.00	11.00
Handicapped child's allowance .. .. .	..	..	10.00	10.00
Supporting mother's benefit .. .. .	23.00	26.00	31.00	36.00
Widows' pensions (a)—				
Class A, widows with dependent children—	23.00	26.00	31.00	36.00
Where there is a child under 6 years or an invalid child requiring full-time care .. .. .	6.00	6.00	6.00	6.00
Other cases .. .. .	4.00	4.00	4.00	4.00
First and each subsequent child under 16 years (c) .. .. .	5.00	5.00	5.50	7.00
Class B, widows aged 50 years or more (f) .. .. .	23.00	26.00	31.00	36.00
Class C, widows under 50 years of age in necessitous circumstances (g) .. .. .	23.00	26.00	31.00	36.00
Funeral benefits (h) .. .. .	(d) 40.00	(d) 40.00	(d) 40.00	(d) 40.00
Unemployment and sickness benefits (i)—				
Single person .. .. .	23.00	26.00	31.00	36.00
Married couple .. .. .	40.50	45.50	51.50	60.00
First and each subsequent child under 16 years .. .. .	5.00	5.00	5.50	7.00
Rehabilitation service .. .. .	(j)	(j)	(j)	(j)
Personal care subsidy (k) .. .. .	12.00	12.00	15.00	15.00

- (a) Supplementary assistance at a maximum rate of \$5.00 a week is payable, subject to the payment of rent and to a means test, to single age and invalid pensioners, to a married pensioner whose spouse is not a pensioner, to either or both of a married pensioner couple who, because of illness or infirmity, cannot live together in a matrimonial home, and to widow pensioners. Supplementary assistance may also be paid to recipients of sheltered employment allowances and to married pensioner couples paying rent, payment being made on the basis of half to each partner.
- (b) Wife's pension is payable, subject to a means test, to a non-pensioner wife.
- (c) A child is, for pension purposes, a child under 16 years or a person who is a full-time student and dependent on the pensioner.
- (d) Single lump sum payment.
- (e) Child endowment for the fourth and subsequent children under 16 years in a family increases by 25 cents a week for each child so that the rate payable is \$2.25 a week for the fourth child, \$2.50 for the fifth child and so on.
- (f) Class B Widows' pensions may also be payable to certain widows between 45 and 50 years of age.
- (g) Class C Widows' pensions are generally payable for not more than 26 weeks immediately after the husband's death.
- (h) A funeral benefit of up to \$40 is payable to an age, invalid or widow pensioner, a woman receiving a wife's pension or a supporting mother's benefit or to a person who receives a sheltered employment, tuberculosis or rehabilitation allowance who would otherwise have been eligible for a pension who is liable for the funeral costs of a spouse, a child or another such pensioner. A benefit of up to \$20 is payable to any person liable for the funeral costs of an age or invalid pensioner or for people who were receiving a sheltered employment, tuberculosis or rehabilitation allowance who would otherwise have been eligible for a pension, or a person claiming one of these pensions or allowances who would have been eligible but for his death. For these benefits, 'pensioner' means a person who would be entitled to a pension if the tapered means test did not apply.
- (i) A supplementary allowance at a maximum rate of \$5 a week is payable subject to the payment of rent and to a means test. Persons in hospital who have no dependants do not qualify for these benefits. From March 1973 no distinction is made between long-term and short-term benefit rates.
- (j) Disabled persons may be given rehabilitation treatment, followed, where necessary, by vocational training. During the period of rehabilitation treatment patients receive the appropriate pension or benefit and while receiving vocational training they are paid a rehabilitation allowance. In addition a training allowance and, where appropriate, a living away from home allowance are also payable free of means test. Free vocational training, with associated allowances, may also be available to Class A and Class B widow pensioners.
- (k) A subsidy of \$15 a week is payable in respect of persons who receive approved personal care and who reside in hostel-type accommodation in an aged persons' home conducted by an eligible organisation under the *Aged Persons Homes Act*.

### *Pensions and Benefits*

In the previous table a description was given of the various pensions, benefits, etc. The rates and conditions are varied from time to time by amending legislation; the 1974-75 rates were announced in the Federal Budget of August 1974 and were further increased by legislation in April 1975. (The Federal Treasurer outlines social security proposals in his budget and these are implemented in later Acts.)

### *Age and Invalid Pensions*

Generally pensions are payable to persons who have been resident in Australia, New Zealand or the United Kingdom for 10 years in the case of age pensioners and five years in the case of invalid pensioners. (Reciprocity agreements exist with New Zealand and the United Kingdom.)

The qualifying ages for aged pensions are 65 years for men and 60 years for women; invalid pensions are payable to persons over 16 years of age who are permanently incapacitated for work. Additional allowances are payable for dependants under certain conditions.

For age and invalid pensions, the same means test on income and property operates. 'Means' can consist entirely of income, entirely of property, or any combination of them. The calculation of income excludes the pension itself, (actual) income from property, gifts from family, benefits from hospital and medical insurance schemes, child endowment, etc.; the property component excludes home, furniture, personal effects, the first \$400 of other property and \$1 500 of surrender



value of life policies, and the capital value of any life or contingent interest, etc. Blind persons, however, may receive the maximum rate of pension free of means test.

Amending legislation in April 1975 varied the sliding scale means test so that a single pensioner can draw the full pension (\$1 872 per annum) and also have other income (including income equivalent of property component of 'means') not exceeding \$1 040. When the single pensioner's other income reaches \$4 784, all pension ceases.

Married pensioners can draw full pension (\$3 120 per annum) and also have other income of \$1 794. When their other income reaches \$8 034, all pension ceases.

Income equivalents of property are calculated by assuming that 'income' is 10 per cent of the value of property. So the permissible property limits (if no means other than property) under the varied means test are as follows:

*Single: Lower Limit:*  $\$1\,040 \times 10$  plus \$400 = \$10 800.

*Upper Limit:*  $\$4\,784 \times 10$  plus \$400 = \$48 240.

*Married: Lower Limit:*  $\$1\,794 \times 10$  plus \$800 = \$18 740.

*Upper Limit:*  $\$8\,034 \times 10$  plus \$800 = \$81 140.

If the only means are those assessed on the basis of property, then the lower limits shown above are compatible with drawing full pension; and the upper limits are those at which all pension ceases.

The 1973 Budget abolished the means test for all people aged 75 years or more and an amending Act passed in April 1975 abolished the means test for all persons aged 70 years or more. However, aged pensioners with a total income (including pension) exceeding a specified limit are subject to income tax. Persons wholly or largely dependent upon the aged pension do not have to pay income tax.

Free medical service and medicine are provided for pensioners and their dependants under Medibank and a concessional telephone rental equal to one-third of the amount otherwise payable is available to blind people, pensioners who live alone, and to certain others. Persons who become pensioners for the first time because of the 'tapered' means test, introduced in October 1969, are not entitled to other subsidiary benefits unless changes occur in their circumstances—i.e. reduced assets or income (other than the pension).

On the death of one of a married pensioner couple, the survivor receives six fortnightly instalments at the married couple rate before reduction to the single rate.

Pensions are paid fortnightly by cheque posted to the pensioner's address.

### *Widows' Pensions*

These were introduced by the Curtin Government in 1942. They are payable to widows who have been resident in this country, New Zealand or the United Kingdom for five years before claiming a pension. There is no residential qualification where the woman and her husband were living permanently in Australia before he died. A woman also qualifies if her husband died overseas and she has lived in Australia for 10 years at any time.

The classes of widows are as follows: (i) a class A widow has one or more dependent or student children in her care; (ii) a class B widow is at least 50 years of age, or 45 years when her class A pension ceases (because she no longer has a child in her care); and (iii) a class C widow is under 50, without children,

and in necessitous circumstances in the 26 weeks following her husband's death. The term 'widow' includes a deserted wife, a divorcee and a woman whose husband has been imprisoned for at least six months or is a patient in a mental hospital. Certain 'dependent females' may also qualify for pension.

The following table shows, for Tasmania, the number and sex of persons receiving age, invalid and widow's pensions, and the amounts paid out in pensions and allowances:

Age, Invalid and Widow Pensioners and Payments

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Age and invalid pensions—						
Number of age pensioners (a)—						
Males .. .. .	7 312	7 667	8 057	9 270	10 304	11 225
Females .. .. .	16 603	17 227	17 611	19 837	21 600	23 044
Persons .. .. .	23 915	24 894	25 668	29 107	31 904	34 269
Number of invalid pensioners (a)—						
Males .. .. .	2 376	2 523	2 592	2 836	3 028	3 341
Females .. .. .	1 675	1 793	1 906	2 019	2 059	2 119
Persons .. .. .	4 051	4 316	4 498	4 855	5 087	5 460
Amount of pensions paid .. \$'000	19 517	21 835	25 543	33 656	35 804	60 118
Widow's pensions—						
Number of pensions (a) .. ..	2 958	3 138	3 205	3 600	3 932	4 103
Amount of pensions paid .. \$'000	2 927	3 327	3 842	5 136	6 582	8 521

(a) At 30 June.

### Unemployment, Sickness and Special Benefits

Legislation for these benefits was introduced in 1944 by the Curtin Government and payments began in 1945. The minimum age is 16 years, the maximum 65 (male) and 60 (female). There are no nationality restrictions, but if a claimant has not been resident in Australia for one year before making the claim, the Department must be satisfied that he intends to live here permanently. Benefits are not payable to people qualified to receive invalid, age, widows' or service pensions, supporting mothers' benefits, or tuberculosis allowances.

To receive unemployment benefit, a person must be out of work (but not through being a direct participant in a strike), must be capable of undertaking and willing to undertake suitable work and have taken reasonable steps to obtain employment. Registration with the Commonwealth Employment Service is necessary; payment is at the discretion of the Department of Social Security.

Sickness benefit may be paid to a person temporarily unable to work because of sickness or accident and who has suffered a loss of income because of this. A married woman is not eligible to receive a sickness benefit if it is reasonably possible for her husband to maintain her. Where the husband is able to maintain her partially, a benefit may be paid at a rate considered reasonable in the circumstances.

A special benefit may be granted to a person not qualified for a pension or an unemployment or sickness benefit if, because of age, physical or mental disability, domestic circumstances, or for other valid reasons, he is unable to earn a sufficient livelihood for himself and his dependants. Recipients of special benefits include, among others, persons caring for invalid parents, deserted fathers and persons ineligible for either age or invalid or widower's pensions because of lack of residence qualifications.

The next table gives Tasmanian details for unemployment, sickness and special benefits:

**Unemployment, Sickness and Special Benefits  
Beneficiaries and Payments**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Unemployment benefits—						
Claims granted .. .. no.	3 825	4 388	8 974	12 536	11 562	22 088
Persons on benefit—						
At 30 June .. .. no.	437	782	1 697	2 330	1 769	3 555
Weekly average .. .. no.	548	501	1 187	2 073	2 089	4 439
Benefits paid .. .. \$'000	360	366	966	2 095	3 125	7 746
Sickness benefits—						
Claims granted .. .. no.	2 194	2 687	2 964	3 295	3 739	4 144
Persons on benefit—						
At 30 June .. .. no.	263	349	428	583	604	682
Weekly average .. .. no.	228	292	382	499	642	632
Benefits paid .. .. \$'000	199	327	497	792	1 247	1 692
Special benefits—						
Claims granted .. .. no.	429	388	418	459	574	800
Persons on benefit—						
At 30 June .. .. no.	157	150	138	148	172	297
Weekly average .. .. no.	145	146	139	136	148	215
Benefits paid .. .. \$'000	68	71	79	128	224	421
Total benefits—						
Claims granted .. .. no.	6 448	7 463	12 356	16 290	15 875	27 032
Persons on benefit—						
At 30 June .. .. no.	857	1 281	2 263	3 061	2 545	4 534
Weekly average .. .. no.	921	939	1 708	2 708	2 879	5 286
Benefits paid .. .. \$'000	628	764	1 542	3 015	4 596	9 859

### Maternity Allowances

Maternity allowances were introduced by the Fisher Government in 1912. There is no means test and any mother is entitled to a maternity allowance if she gives birth to a child in Australia and if she resides or intends to remain in Australia.

The following table shows payments made in Tasmania during recent years:

**Maternity Allowances**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Claims .. .. no.	8 130	8 594	8 211	7 615	7 296	7 225
Amount .. .. \$'000	259	274	260	241	230	229

### Child Endowment

Child endowment was introduced by the Menzies Government in 1941, and is paid to persons or institutions having the care, custody and control of children under 16 years, or student children under 21. One year's residence in Australia is required if the mother and child were not born here, but this requirement is waived if the Department is satisfied they intend to remain here permanently.

The following table shows child endowment statistics for Tasmania for the years 1969-70 to 1974-75:

**Child Endowment**  
**Endowed Children and Students and Payments**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Endowed children and students (a)—						
Children in endowed families .. .. no.	129 853	129 322	128 946	128 297	126 595	126 461
Children in approved institutions .. .. no.	423	429	447	440	388	399
Students (a) .. .. no.	5 263	5 525	6 213	5 834	5 911	5 894
Total endowed .. .. no.	135 539	135 276	135 606	134 571	132 894	132 754
Amount paid during year (b) .. .. \$'000	7 416	6 686	7 196	8 185	7 212	7 099

(a) Number at 30 June. Children, under 16 years; students, 16 but under 21 years, includes students in approved institutions.

(b) In 1969-70 and 1972-73 five 12-weekly payments, instead of the usual four, were paid.

### *Orphans' Pension*

The 1973 Budget introduced the double orphans' pension which is payable to institutions or persons caring for a child whose parents are both dead or one parent is dead and the other parent cannot be located. At 30 June 1975 there were 92 orphans for whom pensions were being paid. Total payments in 1974-75 were \$43 000.

### *Handicapped Child's Allowance*

The 1974 Budget introduced the handicapped child's allowance which is payable to the parents or guardians of a severely physically or mentally handicapped child who is living in the family home and needs constant care and attention. Total payments in 1974-75 were \$45 000.

### *Australian Government Rehabilitation Service*

In 1941 the Curtin Government introduced provisions for the vocational training of invalid pensioners. In 1948 the Chifley Government provided for the rehabilitation of invalid pensioners and of unemployment and sickness benefit recipients. The Menzies Government in 1955 extended eligibility to persons receiving tuberculosis allowances and to children of 14 and 15 years who otherwise might qualify for an invalid pension at 16. In 1958 widow pensioners and people receiving special benefits were granted eligibility.

The Service aims to fit handicapped people for employment by supplying medical and hospital treatment, surgical aids and appliances and, where necessary, arranging special education and training courses in industry, trade, commerce, public service, etc. Although employment is specifically the responsibility of the federal Department of Labor and Immigration, vocational counsellors arrange employment with suitable employers and follow up progress.

Rehabilitation training is given if the disability is a substantial handicap to engaging in full employment. Disabled people who do not qualify for free service may pay for rehabilitation themselves or may be sponsored by private or government organisations. In Tasmania the Department's rehabilitation centre is located in Hobart.

The following table shows the numbers accepted for rehabilitation and placed in employment in Tasmania:

## Operation of the Australian Government Rehabilitation Service

Particulars	1960-70	1970-71	1971-72	1972-73	1973-74	1974-75
Persons—						
Accepted for rehabilitation .. no.	96	100	77	82	109	131
Placed in employment .. .. no.	80	91	71	45	47	82
Expenditure (a) .. .. \$'000	79	108	112	133	176	321

(a) Excludes capital expenditure on sites and buildings and administrative costs of the Rehabilitation Service.

*Homes for the Aged or Disabled*

The *Aged Persons' Homes Act* 1954-74 was replaced, on 3 December 1974, by the *Aged or Disabled Persons' Homes Act* 1974. The new Act provides for building subsidies and separate land subsidies on a \$4 for \$1 basis (up to a maximum amount, which is determined from time to time). These subsidies are payable to approved organisations intending to build or acquire homes for aged or disabled persons. It differs from the superseded Act in that organisations are now permitted to accommodate persons who have not reached pensionable age, providing such persons are permanently incapacitated for work or are permanently blind. The aim is to provide homes in which the conditions approach normal domestic life. ('Homes' in this context does not refer to houses built under federal-state Housing Agreements.)

During 1973-74 the number of grants approved under the *Aged Persons' Homes Act* was 14 and the amount granted was \$1 081 932. Cumulative totals for Tasmania since the inception of the scheme, to 30 June 1974 were: number of grants approved, 161; value of approvals, \$6.92m.

*Personal Care Subsidy:* A subsidy of \$15 per week is payable to eligible organisations in respect of all persons who receive approved personal care in hostel-type accommodation in an aged persons' home eligible under the *Aged Persons' Homes Act* 1954-72 and for whom National Health Benefit is not received.

*Delivered Meals Subsidy:* A subsidy at the rate of 25 cents (plus five cents if vitamin C supplement provided) for each delivered meal is payable to approved organisations to establish, maintain, expand and improve 'meals-on-wheels' service. In 1973-74, 20 organisations in Tasmania provided approved meal services, and subsidy payments totalled \$54 499.

*Handicapped Persons Welfare*

The *Handicapped Persons (Assistance) Act* 1974 replaced (with effect from 9 December 1974) the *Sheltered Employment (Assistance) Act* 1967, the *Handicapped Children (Assistance) Act* 1970, and Division 5A of Part V of the *National Health Act* 1953-74 relating to the payment of handicapped children's benefit.

Handicapped Persons Assistance  
Approved Services Throughout Tasmania at 30 June 1975

Type of service	Number approved	Number of handicapped persons
Training centres .. .. .	9	142
Activity therapy centres .. .. .	4	195
Sheltered workshops .. .. .	5	113
Total persons assisted at 30 June 1975 ..	..	450
Residential hostels .. .. .	11	(a) 173

(a) Provides accommodation for handicapped persons attending training centres, activity therapy centres and sheltered workshops.

The new Act provides assistance for the following prescribed services relating to handicapped or disabled persons: (i) training; (ii) activity therapy; (iii) sheltered employment; (iv) residential accommodation; (v) holiday accommodation; (vi) recreational facilities; and (vii) rehabilitation facilities.

Assistance is given to approved organisations under the Act by a \$4 for \$1 subsidy towards: (i) the capital cost of approved projects; (ii) the cost of approved building maintenance; (iii) the rental of approved premises; and (iv) the cost of approved equipment. In addition salary subsidies of up to 100 per cent are payable for the first two years after an organisation has commenced to provide a prescribed service and a 50 per cent subsidy is payable in all other cases. A training fee of \$500 is payable to a sheltered workshop for each disabled person placed in open employment for a period of not less than 12 months.

Expenditure in Tasmania under the three Acts since 1972-73 is given in the following table:

**Handicapped Persons Assistance: Expenditure**  
(**\$**)

Act	1972-73	1973-74	1974-75
Sheltered Employment (Assistance) Act 1967 .. ..	175 843	179 358	109 629
Handicapped Children (Assistance) Act 1970 .. ..	30 550	203 611	183 687
Handicapped Persons (Assistance) Act 1974 .. ..	..	..	(a) 442 616
Total .. ..	206 393	382 969	735 932

(a) Approved after Act became effective following Royal Assent on 9 December 1974 (paid since February 1975).

### *National Health Benefits*

The following table shows Australian Government payments for the various health benefits and services under the control of the Department of Social Security. Other National Health payments details are contained in the section dealing with the federal Department of Health.

**National Health Payments Administered by Department of Social Security (a)**  
(**\$'000**)

Benefit or service	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Hospital benefits (b) .. ..	1 787	2 126	2 789	3 178	3 458	4 582
Nursing home benefits .. ..	1 393	1 512	2 343	2 840	3 272	5 152
Medical benefits—						
General .. ..	1 725	2 879	3 562	4 457	4 459	4 875
Pensioner medical service .. ..	580	639	876	946	1 040	1 409
Handicapped children's benefit .. ..	16	18	21	19	27	29
Domiciliary nursing care benefit (c) .. ..	..	..	..	..	332	375
Total .. ..	5 501	7 174	9 591	11 440	12 588	16 422

(a) Payments from National Welfare Fund. The responsibility for administering these payments was transferred from the federal Department of Health on 1 March 1973. Hospital and medical benefits payments include payments in respect of the Subsidised Health Benefits Plan and advances and reimbursements of Special Accounts.

(b) Includes payments to public hospitals for pensioner patients.

(c) Introduced from 1 March 1973.

**Hospital and Medical Benefits Payments:** Federal hospital payments were made on a hospital bed-day basis as follows: insured patients, \$2; uninsured, 80 cents; pensioner patients, \$5. The Australian Government now meets 50 per cent of the net operating costs of recognised public hospitals and pays \$16 per day to approved private hospitals in respect of each occupied bed. This follows introduction of the Medibank Hospitals Agreement between the Australian Government and the Tasmanian Government from 1 July 1975. Insured patients remain entitled to the \$2 a day Australian Government benefit when hospitalised in an intermediate or private ward of a recognised public hospital or in a private hospital, as previously; uninsured patients, in such cases, are entitled to have 80 cents a day deducted from their hospital account. The benefit previously paid to public hospitals for pensioner patients (\$5 per day) has been subsumed under the Hospitals Agreement as has the 80 cents (uninsured patients) and \$2 (insured patients) per day previously payable for persons hospitalised in standard wards of public hospitals. The following tables show payments by the Australian Government, and also by the health insurance organisations (referred to as 'Fund benefits') in Tasmania, together with details of the number of such organisations and their membership.

#### Hospital Insurance: Members and Benefits

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Registered organisations (a) .. no.	9	10	10	10	9	9
Members (a) .. .. '000	118	118	131	125	127	137
Hospital benefits paid—						
Australian Government benefits—	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
Insured patients (b) .. ..	710	868	1 351	1 596	1 697	2 607
Uninsured patients (c) .. ..	46	33	27	20	18	13
Hospitalisation free of charge .. ..	..	4	6	16	13	10
Pensioner patients (c) .. ..	984	1 048	1 098	1 130	1 193	1 195
Subsidised health benefits patients ..	47	173	309	416	536	757
Total .. ..	1 787	2 126	2 789	3 178	3 458	4 582
Fund benefits (d) .. ..	3 310	3 701	5 354	6 326	6 382	8 605

(a) At end of year.

(b) Includes Special Account deficits.

(c) Paid direct to hospitals by the Australian Government.

(d) Includes ancillary benefits: certain supplementary services for which a fund benefit payment, but no Australian Government payment is made, e.g. home nursing, physiotherapy, provision of spectacles, orthoptics, chiropractice.

#### Medical Insurance: Members and Benefits

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75
Registered organisations (a) .. no.	9	10	10	10	9	9
Members (a) .. .. '000	116	118	131	125	128	127
Medical services during year .. .. '000	1 165	1 174	1 202	1 395	1 490	1 562
Medical benefits paid—						
Australian Government						
benefits (b) .. .. \$'000	1 725	2 879	3 562	4 457	4 459	4 875
Fund benefits (c) .. .. \$'000	1 916	1 997	2 206	2 627	2 702	4 122

(a) At end of year.

(b) Excludes pensioner medical service benefits.

(c) Includes ancillary benefits—see note (d) in preceding table.

#### Medibank

'Medibank', the new health insurance program for all Australians, came into operation on 1 July 1975. The Medibank program provides automatic cover (as detailed below) for everybody in Australia without the necessity to continue paying contributions to a private medical or hospital insurance fund to qualify for the Medibank benefits.



Medibank is operated by the Health Insurance Commission which was established by the Australian Government to pay the medical benefits, hospital subsidies, optometrical benefits and health program grants available under the *Health Insurance Act 1973-75*. No one is required to pay specific contributions to Medibank as the benefits are met from taxation revenue collected from all taxpayers.

*Medical Benefits:* Medibank covers at least 85 per cent of the approved schedule fee for each service listed in the Medical Benefits Schedule and a higher proportion for more expensive treatments, such as operations. For fees of more than \$33 (where the schedule fee is charged) Medibank pays the fee less \$5. (Note: The 'schedule fee' was formerly known as the 'most common fee'. It is the fee agreed on in negotiations between the Australian Government and the Australian Medical Association, or determined by an independent inquiry, as being the fair and reasonable fee for any particular service for medical benefits purposes, or determined by the Medical Benefits Advisory Committee which the Minister for Social Security may appoint under provisions relating to Medibank.)

*Optometrical Benefits:* Medibank covers at least 85 per cent of the schedule fee. The schedule consists of four items all of which are related to consultations given by participating optometrists. All participating optometrists have given an undertaking that the fee charged for the specified consultations will not exceed the schedule fee for that specified service. Medibank does not provide benefits for the cost of spectacles or contact lenses. Pensioners, in possession of a Pensioner Medical Service entitlement card, are not required to pay the 'gap' i.e. the difference between the Medibank payment (85 per cent) and the schedule fee (100 per cent).

*Hospital Benefits:* In those states which have signed a hospitals agreement with the Australian Government (Tasmania has signed such an agreement) free accommodation and treatment is provided in the standard wards of public hospitals. Under Medibank, private patients in public hospitals (i.e. patients occupying beds in intermediate or private wards—e.g. at the Queen Alexandra and Queen Victoria maternity hospitals) are entitled to subsidies of \$18 a day if privately insured and \$16.80 a day if uninsured.

Medibank pays private hospitals \$16 a day towards the cost of each patient's accommodation. Patients who are insured with a private hospital benefits fund are entitled to an additional Australian Government benefit of \$2 a day whilst patients who are not privately insured are entitled to an additional Australian Government benefit of 80 cents a day.

*Pensioner Medical Service (P.M.S.):* This scheme ceased to operate on 30 June 1975 due to special provisions under Medibank. The P.M.S. scheme provided only a limited range of medical services rendered by private general practitioners who had enrolled to provide such services. Under Medibank it is intended that pensioners receive the full range of medical services provided by private general practitioners, specialists and consultant physicians. Under the *Health Insurance Act*, the Minister for Social Security was required to invite each doctor to bill Medibank direct for services rendered to P.M.S. pensioners. The Minister has written individually to doctors asking them to undertake to give P.M.S. pensioners the opportunity to receive free treatment by assigning their Medibank benefits to their doctors. Pensioners, in common with all other persons, are entitled to free accommodation and treatment in the standard wards of public hospitals in those states which have signed a hospitals agreement with the Australian Government. P.M.S. pensioners are also entitled to optometrical consultations as indicated above under the heading 'optometrical benefits'.

*Health Program Grants:* These grants, under the *Health Insurance Act*, are generally paid to organisations providing services through medical and para-medical personnel remunerated on a salaried or sessional basis. An approved organisation is entitled to be paid an amount equal to the cost incurred by the organisation in providing the approved health service, including such part of the management expenses of the organisation as the Minister considers attributable to the provision of the health service.

*Private Health Insurance:* With the introduction of Medibank from 1 July 1975, medical and hospital benefits organisations, approved under the *National Health Act*, were permitted to remain as registered organisations. However, the organisations were required to amend their rules relating to benefits and contributions in view of the Medibank benefits available without the necessity for private insurance.

Most medical and hospital benefits organisations now offer 'gap' insurance for medical, optometrical and hospital fees and also a varying range of ancillary benefits not provided by Medibank. Medical and optometrical benefits provided by organisations cover the difference between the Medibank payment (85 per cent) and the schedule fees (100 per cent) i.e. the cover is 15 per cent of the schedule fees (see also 'Medical Benefits' and 'Optometrical Benefits').

Organisations also offer two 'official' hospital benefits tables of \$18 and \$28 per day which, with the \$2 per day Australian Government benefit plus the \$16 per day Medibank subsidy paid directly to hospitals, covers the fees charged to intermediate and private ward patients in public hospitals recognised in the Hospitals Agreement between the Australian and state Governments (see 'Hospital Benefits'). In addition, organisations offer a further supplementary hospital benefit to provide cover for persons preferring hospitalisation in private hospitals.

*Special Accounts:* Under the Special Account arrangements, which existed to 30 June 1975, the Australian Government guaranteed continuing medical and hospital benefits to insured persons who lost their entitlement to organisation fund benefits because of the organisations' rules. These rules generally precluded payment of fund benefits to persons who had received the maximum benefits permitted by the fund or who had pre-existing illnesses, etc.

With the introduction of Medibank, the Medical Benefits Special Accounts have lapsed as Medibank now meets the same costs as were met by the Special Account and does not apply the restrictions previously imposed by the insurance organisations.

Special Account arrangements continue with regard to hospital benefits in those insurance organisations which had Special Accounts as at 30 June 1975. The Special Account arrangements are no longer necessary in relation to persons hospitalised in standard wards of public hospitals as no charge is raised. The Special Account arrangements still apply in relation to the two 'official' hospital benefit tables providing fund benefits of \$18 and \$28 per day but *not* to the further supplementary hospital fund benefit (see 'Private Health Insurance').

*Subsidised Health Benefits Plan (S.H.B.P.):* As Medibank now provides cover for all persons in Australia for all the benefits previously provided under the S.H.B.P., without the necessity for insurance, the S.H.B.P. for low income earners, and persons on unemployment and sickness benefits, etc., has been terminated in all states for medical benefits and also for hospital benefits in those states which

have signed a hospitals agreement with the Australian Government. S.H.B.P. certificates are still provided to eligible persons to enable them to obtain pharmaceutical benefits.

**Domiciliary Nursing Care Benefit:** This benefit of \$2 per day (\$14 a week) is designed to help meet the cost of home nursing and other professional care for aged people who are chronically ill but being cared for in their own homes. It is payable to any person who provides continuous care for a patient in a private home provided the home is the usual residence of both the person and the patient and provided the patient meets certain medical criteria. The main eligibility rules are: (i) patients must be 65 years of age or more; (ii) patients must have an official certificate from their doctor stating that because of infirmity or illness, disease, incapacity or disability they have a continuing need for nursing care by a registered nurse; and (iii) patients must be receiving care by a registered nurse on a regular basis involving multiple visits each week.

**Nursing Home Benefits:** The *Nursing Homes Assistance Act* 1974 came into effect from 1 January 1975. Under this Act, religious and charitable type nursing homes can elect to come under the provisions of that legislation which relates to 'deficit financing' of such nursing homes. These nursing homes submit a budget showing estimated operating receipts and payments and the estimated end of year deficit. The Australian Government provides monthly advances against the anticipated deficit and a final settlement based on the actual deficit revealed in the audited end of year accounts. The Act prescribes a fee to be charged to patients (\$37 per week as at 1 May 1975) and this may be varied by legislation. Arrangements exist for waiver or part-waiver of the prescribed fee in certain circumstances.

Religious and charitable nursing homes which have not elected to come under the provisions of the *Nursing Homes Assistance Act*, private gain nursing homes and government nursing homes continue under the provisions of the *National Health Act*.

The benefits and patient contribution to fees in these nursing homes are given in the following table:

**Nursing Home Benefit Rates**  
( \$ Per Week )

Particulars	Ordinary care patients	Intensive care patients
Benefit prior to 1 January 1973 .. .. .	24.50	45.50
Additional benefit from 15 October 1974 (a) .. .. .	44.80	44.80
Patients share of fees .. .. .	36.75	36.75
Total fee (b) .. .. .	106.05	127.05

(a) Payable by the Australian Government for pensioners and by approved hospital benefits organisations for insured non-pensioners.

(b) 'Total fees' are the standard fees as determined by the Government at 1 May 1975. If fees actually charged are: (i) less than the standard fee, the additional benefit, shown above, is reduced by the difference; or (ii) greater than the standard fee, the patient's share, shown above, is increased by the difference.

Private gain nursing homes and those religious and charitable nursing homes, which have not elected to come under the provisions of the *Nursing Homes Assistance Act*, accept a fee control system and require departmental approval to vary their prescribed fees. The prescribed fees may differ between nursing homes because of the 'base' figure accepted for each nursing home when fees control was introduced on 1 January 1973 and because of continuing different costs as between

such homes. An independent fees review committee exists in each state to determine any appeals made by nursing homes against departmental decisions on fees.

### State Department of Social Welfare

#### *Expenditure*

Activities of this State Government Department are grouped under Child Welfare and Relief Divisions. The following table shows expenditure over a five-year period:

Department of Social Welfare: Expenditure  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Administration and general ..	452	571	653	762	941
Relief Division ..	386	484	653	1 043	826
Child Welfare Division ..	307	325	368	408	477
Grants to organisations ..	121	146	127	149	157
Total .. ..	1 267	1 526	1 802	2 363	2 401

In 1973-74 the major expenses were: under Relief Division, fuel allowances for eligible pensioners, \$182 000 and relief and maintenance, \$607 000; under Child Welfare Division, maintenance of boarded-out children, \$244 000 and contributions towards maintenance of children in approved institutions, \$112 000; and under grants to organisations, Tasmanian Institute for Blind and Deaf, \$112 000.

#### *Relief Division*

The functions of this Division are to investigate applications for assistance from needy mothers with dependent children and to give cash relief where necessary; to issue fuel allowances (subject to a means test) to age and invalid pensioners; and to help pay for funerals, transport, furniture removals, artificial limbs, spectacles, etc., for persons in needy circumstances. Special grants are made to deserted wives (and sometimes deserted husbands) left with children, wives with husbands in gaol, to certain persons awaiting receipt of federal benefits or pensions, and to relatives supporting deserted children.

#### *Child Welfare Division*

The work of this Division includes the investigation of complaints that children are neglected or inadequately controlled; the supervision of neglected children in their own homes to avert the need for more drastic action; the investigation of cases to appear in Children's Courts; the supervision of children under court order; the placement and supervision of children made wards of the State; the control of the Department's receiving and other homes; the recovering of maintenance costs, where possible, from parents of children who are a charge on the Department; the licensing and supervision of children's boarding homes and day nurseries; the supervision of child migrants; and welfare of children referred by courts in divorce actions.

Where, because of illness, a mother is unable to undertake her normal duties, accommodation may be provided for her children at Rochebank Hostel in Hobart, or at other suitable residences throughout the State.

*Adoption of Children:* Women child welfare officers investigate applications by prospective adoptive parents and interview mothers wishing to place their children for adoption. Applications for adoption of children are heard by a magistrate. There were 268 orders for adoption made in 1973-74.

*Children's Courts Statistics*

Children's Courts are established to hear cases involving persons under the age of 17 years. If proceedings are instituted, a child's parent has the right to be heard and to examine and cross examine witnesses or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience. For the powers of Children's Courts see the section under 'The Present Law Court System' in Chapter 16.

The following table shows the number and ages of children who appeared before Children's Courts in 1973-74:

**Children Appearing Before Children's Courts (a), 1973-74**  
**Classified by Age and Sex**

Sex	Age (in years)										Total (b)
	Under 8	8	9	10	11	12	13	14	15	16	
Boys	45	5	17	34	41	125	149	292	522	1 205	2 567
Girls	49	8	7	5	9	20	65	115	122	132	540
Total	94	13	24	39	50	145	214	407	644	1 337	3 107

(a) A child appearing twice or more before the Courts will appear twice or more in the table.

(b) Includes 140 children (132 boys and 8 girls) who were 17 years old when appearing before the Courts but 16 at the time the alleged offences were committed.

**Children Appearing Before Children's Courts (a)**  
**Classified by Offence**

Offence alleged	1969-70	1970-71	1971-72	1972-73	1973-74
Damage to property .. .. .	86	103	92	114	117
Breaking, entering and stealing .. ..	338	320	327	379	355
Stealing .. .. .	397	326	322	431	433
Receiving .. .. .	19	24	22	27	16
Illegal use of vehicles .. .. .	69	133	176	235	209
Offences involving fraud .. .. .	10	18	17	17	12
Sex offences .. .. .	16	8	19	24	27
Other offences against the person .. ..	30	62	53	43	93
Offences against decency .. .. .	25	27	34	51	49
Relatively serious offences .. .. .	990	1 021	1 062	1 321	1 311
Disorderly conduct .. .. .	33	42	40	89	65
Traffic offences .. .. .	177	229	218	339	481
Breaches of—Licensing laws .. .. .	293	316	400	440	689
By-laws .. .. .	27	44	50	12	4
Firearms offences .. .. .	36	24	42	18	36
Gaming (b) .. .. .	n.a.	n.a.	n.a.	45	80
Trespass (b) .. .. .	n.a.	n.a.	n.a.	26	18
Other (b) .. .. .	n.a.	n.a.	n.a.	10	93
Other offences .. .. .	566	655	750	979	1 466
Appearing as—Uncontrolled .. .. .	35	36	41	33	122
Neglected .. .. .	70	61	53	80	196
Breaches of supervision .. .. .	10	4	19	11	12
Complaints under Child Welfare Act ..	115	101	113	124	330
Total .. .. .	1 671	1 777	1 925	2 424	3 107

(a) A child reported twice or more will appear twice or more in the table.

(b) For years 1969-70 to 1971-72, these offences are included in other categories.

The preceding table shows children reported in police reports and subsequently brought before Children's Courts classified by alleged offence. The figures relate to actual prosecutions. Where a report concerned multiple offences the apparently more serious one has been listed.

In the previous table, a child may appear more than once if more than one report has been made. The following table shows the number of children found guilty of an offence or against whom a complaint has been proven; the basis for inclusion is different from that in the two earlier tables: (i) a child found guilty at two or more appearances is only counted once; and (ii) a child found guilty of more than one offence is classified under the more serious.

**Individual (a) Children: Findings of Guilty, or Complaint Proven, 1973-74**

Sex	Relatively serious offences (b)	Other offences (b)	Complaints under Child Welfare Act (b)	Total
Boys .. ..	650	730	51	1 431
Girls .. ..	105	140	80	325
Total .. ..	755	870	131	1 756

(a) See paragraph before table for definition of 'individual'.

(b) See previous table for classification of offences and complaints.

### *Wards of the State and Supervised Children*

Children are made wards of the State either on application of a parent or relative (e.g. in the case of both parents' death or desertion) or by a court order. Children may remain wards until they reach the age of 18. Wards, while under the supervision of a welfare officer, are often returned to their home and in such cases wardship is frequently terminated, as it is with those who successfully take up employment.

At 30 June 1974 there were 1 463 children under State control or supervision. Of these children 524 were under legal supervision of child welfare officers as a result of court-imposed supervision orders and 939 were wards of the State.

Wards are placed in: (i) foster homes (mostly ordinary family homes); and (ii) children's homes (private and departmental). The Department makes payments, based on the child's age, for wards in foster homes and contributes to non-departmental institutions for the maintenance of State wards.

Approved children's homes and foster homes are assisted with major items of clothing. The Department accepts responsibility for hospital expenses and cost of dentistry for wards of the State where this treatment is not available from school dental or hospital services. Optical expenses are also met where necessary. Pocket money, varying from 10 cents to \$1 per week is provided for children in foster homes. Assistance at a rate of \$6.50 per week also is available in respect of certain non-wards, who are orphans or abandoned, in the care of the managers of approved children's homes.

The following table gives details relating to the location of wards of the State and the numbers of children made wards and ceasing to be wards, for the last five years:

**Wards of the State: Location, Admissions and Discharges  
(Number)**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Location at 30 June—					
In homes—					
Departmental .. ..	103	110	98	106	105
Other children's homes .. ..	197	204	199	202	163
Foster .. ..	392	349	374	378	390
With parents or relatives .. ..	132	163	177	155	201
In private lodgings .. ..	28	55	50	61	39
Other (a) .. ..	28	39	39	25	41
Total .. ..	880	920	937	927	939
Children made wards during the year—					
By courts—Delinquent .. ..	78	70	79	66	42
Neglected .. ..	24	40	36	50	76
On parents' or guardians' request—					
Neglected (uncontrolled) (b) ..	4	2	1	5	7
Deserted, or parents unable to provide (c) .. ..	68	58	53	45	59
Total .. ..	174	170	169	166	184
Children ceasing to be wards during the year—					
Adopted .. ..	27	31	33	21	28
Supervision not needed, age, etc. ..	114	99	119	155	144
Total .. ..	141	130	152	176	172

(a) Children in hospitals, other government institutions, missing, etc.

(b) Neglected—unfit for guardianship.

(c) Destitute and/or homeless.

The next table shows government expenditure on wards of the State:

**Wards of the State: Government Expenditure  
(\$'000)**

Particulars	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
Expenditure on departmental homes ..	227	240	271	341	384	412
Maintenance of children—						
In foster homes .. ..	119	134	149	178	179	244
In non-departmental homes .. ..	95	97	94	103	120	113
Total expenditure .. ..	441	471	515	622	683	769

*Departmental Homes:* The State's 11 receiving homes, which provide temporary accommodation for children, are maintained at Hobart, Launceston, Wynyard and Devonport. Also, in Hobart, a hostel provides accommodation for older boys who have left school and need to be established in employment.

Ashley Home for Boys, Deloraine, provides care and training for older wards who, because of maladjustment or delinquency, require special institutional control.

Wybra Hall, Mangalore, provides care and training for younger wards and boys on remand. Ages range from eight to 15 years and those admitted have problems of maladjustment or delinquency.



Westwinds, Woodbridge, is a home for intellectually and educationally retarded boys who range in age between seven and 17. Boys of school age attend various schools in the area where there are special facilities recommended by the Educational Guidance Authorities as suitable for meeting their individual needs.

Weeroona Girls' Training Centre, Latrobe, provides for those adolescent girls in the care of the Department who require special institutional supervision and training. Girls of school age receive correspondence school education and older girls are trained in various aspects of domestic work.

*Non-departmental Homes:* Other children's homes in which wards are placed are: Kennerley Children's Homes at Claremont and Chigwell; Salvation Army Boys' Home, Salvation Army Girls' Home, St Joseph's Child Centre, Bethany Boys' Hostel, Mt St Canice Convent and Hillcrest, all in Hobart; Yalambee Hostel, Glenorchy; Clarendon Home, Kingston; Girls' Home and Northern Tasmanian Home for Boys, Launceston; and Roland Boys' Home, Sheffield.

## REPATRIATION SERVICES AND PENSIONS

### General

The Department of Repatriation and Compensation was originally established as a Commission under federal legislation in 1920. The term 'repatriation' does not adequately describe the Department which is responsible for: (i) the payment of disability and service pensions to eligible veterans and their dependants; (ii) the provision of medical treatment to veterans for injuries and illnesses caused or aggravated by their war service; (iii) the provision of medical treatment to widows and dependants of deceased veterans whose deaths were due to war service; (iv) the provision of medical treatment in certain circumstances to veterans who are suffering from injuries and illnesses not caused or aggravated by war service; and (v) medical treatment for veterans of the 1914-18 War and the Boer War.

Benefits are provided in respect of service in the 1914-18 and 1939-45 Wars, in the Korea and Malaya operations, with the British Commonwealth Far East Strategic Reserve, and the Special Overseas Forces including veterans from the Vietnam operations and certain members of the defence forces serving on or after 7 December 1972.

### Repatriation Pensions—General

Disability pensions are payable, without general application of a means test, for war-caused or war-aggravated disabilities. Service pensions are payable in the main, to certain male veterans 60 years and over (and female veterans 55 years and over) subject to a means test; no disability need be claimed.

Disability and dependant's pensions may be granted to persons, or to dependants of persons, who come within the following categories and who suffered death or disability: (i) arising from any occurrence before discharge, or overseas war service or on service in Australia within certain areas; (ii) attributable directly to service where the member served only in Australia; (iii) from pulmonary tuberculosis where the member served in any theatre of war; and (iv) from aggravation of a condition existing at enlistment where camp service exceeded six months.

Those who receive disability pensions are also eligible for free medical and hospital treatment for their pensionable disabilities. With certain categories of pensioners, the eligibility for free treatment is widened to cover all disabilities. It is also possible for a veteran to qualify for free treatment for a disability without necessarily being granted a pension. Details of selected repatriation benefit rates are shown in the next table:

**Repatriation Benefits**  
**(\$ Per Week)**

Benefit	Rate		
	At 1 August 1974	Amending legislation (a)	Amending legislation (b)
<b>PAYABLE WITHOUT MEANS TEST</b>			
Special rate pensions (c)—			
Veteran .. .. .	60.10	64.10	68.10
Wife .. .. .	4.05	4.05	4.05
Each child .. .. .	1.38	1.38	1.38
Intermediate rate pensions (d)—			
Veteran .. .. .	41.05	44.55	48.05
Wife .. .. .	4.05	4.05	4.05
Each child .. .. .	1.38	1.38	1.38
General rate pensions (e)—			
Veteran .. .. .	22.00	25.00	28.00
Wife .. .. .	max.	max.	max.
Each child .. .. .	4.05	4.05	4.05
Each child .. .. .	max.	max.	max.
Each child .. .. .	1.38	1.38	1.38
Each child .. .. .	max.	max.	max.
War widows (f)—			
Pension .. .. .	31.00	31.00	36.00
Domestic allowance .. .. .	9.50	12.00	12.00
War orphans' pensions (g)—			
One parent dead—			
Each child .. .. .	9.25	10.45	10.45
Both parents dead—			
Each child .. .. .	18.50	20.90	20.90
<b>MAXIMUM RATES PAYABLE SUBJECT TO MEANS TEST</b>			
Service pensions (h)—			
Veteran—Standard (single person) ..	31.00	31.00	36.00
Married .. .. .	25.75	25.75	30.00
Addition for—First child ..	5.00	5.50	7.00
Each other child ..	5.00	5.50	7.00
Wife's pension (if she is not a pensioner) (i)	25.75	25.75	30.00
Guardian's allowances—			
Where there is a child under six years or an invalid child requiring full-time care ..	6.00	6.00	6.00
Other cases .. .. .	4.00	4.00	4.00

(a) Assented to in October 1974; effective from 7.11.74.

(b) Assented to in May 1975; effective from 8.5.75.

(c) Special rate pension (commonly referred to as the T.P.I. pension) is granted where a veteran, because of incapacity accepted as due to war service, is totally and permanently incapacitated—that is, to such an extent as to be precluded from earning other than a negligible percentage of a living wage—or has been blinded as a result of war service. Where a veteran is only temporarily totally incapacitated, an amount equal to the special rate pension is payable only for the period he is incapacitated. It may also be granted under certain conditions to a veteran who is suffering from pulmonary tuberculosis.

(d) Intermediate rate pension is payable where a veteran, because of the severity of his war-caused disabilities, can work only part-time or intermittently and therefore is unable to earn a living wage.

(e) General rate pension is payable to a veteran whose war-caused disabilities do not prevent him from working, although they may reduce his earning capacity. Pension from 10 per cent to 100 per cent of the maximum general rate is payable according to the degree of incapacity as assessed by a Repatriation Board, the Repatriation Commission or an Assessment Appeal Tribunal.

(f) Pension is payable to the widow of a veteran whose death has been accepted as due to his war service or who has died from causes not due to war service but was receiving, at the time of his death, or is later adjudged to have been entitled to receive, the special rate of war pension, one of the rates payable to double amputees or one of the special rates payable in respect of tuberculosis, or who served in a theatre of war or who died as a direct result of pulmonary tuberculosis.

Domestic allowance is also payable to a war widow if she has a dependent child or children under 16 years, or is 50 years of age or over, or is permanently unemployed or has a child 16 years or over who is undertaking education or training approved by the Commission and who, in the opinion of the Commission, is not receiving an adequate living wage.

(g) War orphans' pensions are paid for the children of a veteran whose death occurred in circumstances similar to those mentioned in (f) above. The pensions continue until the children attain the age of 16 years.

(b) Service pension, which is broadly the equivalent of the age and invalid pensions payable to civilians, is payable, subject to a means test, to a veteran who: (i) is suffering from pulmonary tuberculosis; or (ii) has served in a theatre of war (or in the case of a woman, served abroad or embarked for service abroad) and has attained, if a man, the age of 60 years, or if a woman, 55 years; or is permanently unemployable. Veterans and their wives who have attained 70 years of age are entitled to receive maximum service pension free of the means test.

Where a service pension is granted to a veteran a service pension may also be paid to his wife and eligible children, but the amount for a child is normally paid as an addition to the veteran's pension.

Where the veteran's wife is receiving a social service pension, a tuberculosis allowance or a service pension as a 'member of the forces', the rate payable to him is the married rate unless, because of illness or infirmity of either or both of them, they cannot live together in a matrimonial home, then the rate payable will be the standard rate.

Guardian's allowance may be payable to a service pensioner who is unmarried, widowed, divorced or married but separated and who has the custody, care and control of a child.

Supplementary assistance, at a maximum rate of \$5 per week, is payable to: (i) a single service pensioner subject to the payment of rent (or of board and lodging) and to a means test; or (ii) a married service pensioner on the same basis as a single service pensioner. The total supplementary assistance is divided equally between the husband and the wife, a maximum of \$2.50 per week being payable to each.

(i) Wife's service pension of \$30.00 per week is payable, subject to a means test, to a wife who is not in receipt of a pension from the Department of Social Security or a service pension as a veteran.

### Disability Pension Payments

The following table shows, for Tasmania, the number of pensions in respect of veterans and their dependants, together with expenditure on disability pensions:

Disability Pensions: Pensioners and Payments

Year				Number of pensions current at 30 June				Expenditure during year (a)
				Incapacitated veterans	Dependants of—		Total (b)	
					Incapacitated veterans	Deceased veterans (c)		
1970-71	..	..	..	8 646	12 493	2 106	23 254	\$'000 8 230
1971-72	..	..	..	8 580	11 874	2 049	22 512	9 094
1972-73	..	..	..	8 503	11 360	2 042	21 905	9 857
1973-74	..	..	..	8 358	11 602	2 027	21 987	11 176
1974-75	..	..	..	8 219	11 231	2 015	21 474	13 697

(a) Includes widows' allowances.

(b) Includes miscellaneous pensions not specified under the 'veteran' details, e.g. seamen's war pensions and allowances.

(c) Includes war widow's pensions.

At 30 June 1975 the proportion of veterans in Tasmania receiving war pensions in respect of service in the 1914-18 War was 8.2 per cent; the 1939-45 War, 86.1 per cent; the Korea and Malaya operations, 1.8 per cent, and other operations 3.9 per cent.

*Service Pension Payments*

The following table shows, for Tasmania, the number of service pensions in respect of veterans and their dependants, and expenditure on pension payments:

**Service Pensions: Pensioners and Payments**

Year				Number of pensions current at 30 June				Expenditure during year
				Veterans	Dependants of—		Total	
					Living pensioners	Deceased pensioners		
1970-71	..	..	..	2 074	1 003	118	(a) 3 197	\$'000 1 604
1971-72	..	..	..	2 131	1 049	116	(a) 3 298	1 841
1972-73	..	..	..	2 638	1 402	122	4 162	2 827
1973-74	..	..	..	3 093	1 541	129	4 763	4 362
1974-75	..	..	..	3 433	1 822	120	5 375	6 668

(a) Includes act of grace pensions.

*Eligibility and Rates for Service Pensions*

Service and dependant's pensions may be granted to persons (or to dependants of persons) who come within the following categories and satisfy a means test: (i) men aged 60 or over who served in a theatre of war or women 55 years and over who served abroad; (ii) men and women with similar service particulars who are totally unemployable; (iii) sufferers from pulmonary tuberculosis. The conditions governing the means test are the same as for old age pensions described earlier in this chapter.

**Medical Services**

To discharge these functions in Tasmania, the Department of Repatriation and Compensation maintains a branch office, a general hospital and an artificial limb and appliance centre in Hobart. Facilities exist at the Repatriation General Hospital for medical treatment of hospitalised patients and specialist services for out-patients. Generally, treatment for out-patients throughout the State is provided by doctors whom the Department has appointed as Local Medical Officers. People entitled to treatment can select a doctor from the panel of L.M.Os. and receive treatment at departmental expense. Payment for treatment in hospitals other than the Repatriation General Hospital is met by the Department only in certain circumstances.

Extensions of benefits announced in the 1973 and 1974 Budgets included: (i) Free treatment for all veterans of the Boer War and the 1914-18 War. This includes medical, hospital, dental, ophthalmological and para-medical treatment and, subject to a contribution of \$36.75 per week, treatment in nursing homes. (ii) Veterans, who are suffering from malignant cancer, are for that condition eligible for free medical and hospital treatment and, subject to a contribution of \$36.75 per week, to nursing home treatment. (iii) Allowing the facilities of the Repatriation Artificial Limb and Appliances Centres to be used to provide free artificial limbs to the general public. A further recent extension is the provision of free treatment, etc., for all ex-prisoners of war.

## Soldiers' Children Education Scheme

## Eligible Children

Educational assistance is granted to veterans' children in particular circumstances: (i) if the parent has died from causes attributed to war service or was receiving disability pension for specific serious disabilities at the time of death; (ii) if the parent, as a result of war service, is blinded, totally and permanently incapacitated or receiving the special rate pension for pulmonary tuberculosis.

## Benefits

For children under 12 years, the scheme pays the cost of school requisites and fares. At secondary level, fortnightly maximum payments are: under 14 years, \$7.40; 14 and under 16, \$11.10; 16 years and over, \$24.30 if both parents are living and \$32.00 if only one parent is living. At tertiary level, those living at home may receive \$38.46 per fortnight and those living away from home, \$61.54.

## HEALTH SERVICES

## State Health Services

## General

The State Department of Health Services is responsible for the maintenance of the health of the community, the prevention of disease and the provision of government hospital and medical services. The Department is under the jurisdiction of the Minister for Health, with the Director-General of Health Services as its permanent head. The headquarters of the Department controls two divisions, each under a director, namely Public Health and Tuberculosis. Three specialised services are also part of the Department: the State Health Laboratory under the direction of the Government Pathologist; the Government Analyst and Chemist Laboratory under the control of the Government Analyst; and Cardio-Vascular Services under the control of a Director.

Department of Health Services: Expenditure from Consolidated Revenue  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Administration, head office .. ..	257	325	348	398	476
Hospital and medical services—					
Administration .. .. .	219	(a) 235	(a) 295	353	379
Grants to hospitals .. .. .	9 442	10 854	12 085	14 387	19 020
Medical services, country districts .. ..	167	188	198	210	248
District Nursing Service (b) .. .. .	1	..	..	..	..
Dental Health Service .. .. .	504	599	698	754	669
State Laboratory, pathology .. .. .	4	4	4	12	14
National fitness section .. .. .	66	78	87	100	126
Nurses' Registration Board .. .. .	7	7	7	7	8
Government Analyst and Chemist .. ..	81	110	139	164	188
St John's Park Hospital .. .. .	1 378	1 577	1 763	1 925	2 326
Public health—					
Administration and inspectors .. ..	245	308	369	403	425
School Medical Service .. .. .	161	185	197	224	268
Child Health Service .. .. .	192	218	242	281	311
Mothercraft Home .. .. .	106	116	127	149	173
Road safety .. .. .	4	42	94	111	158
Tuberculosis Division—					
Administration .. .. .	190	203	209	227	343
Chest hospitals .. .. .	217	244	246	(c) 116	..
Miscellaneous grants and expenses .. ..	453	(a) 590	(a) 651	848	861
Total .. .. .	13 691	15 884	17 758	20 670	25 993

(a) Expenditure on the enquiry into the running of the Launceston General Hospital has been included in 'Miscellaneous grants and expenses': 1970-71, \$12 000; 1971-72, \$46 000.

(b) District nursing centres administered from 1 July 1968 by public hospitals.

(c) Chest hospitals were closed in 1972-73.

### *Headquarters*

Responsibilities of the headquarters of the Department of Health Services include:

- (i) public hospital management advisory services and the licensing of private hospitals and other medical establishments under the *Hospitals Act 1918*;
- (ii) District Medical Service;
- (iii) School Dental Service;
- (iv) Nurses' Registration Board and Dental Mechanics' Registration Board;
- (v) Tourist Nursing Service;
- (vi) legislation concerned with health and allied matters;
- (vii) certain specialist medical services;
- (viii) State Drug Advisory Committee;
- (ix) liaison with the health departments of other states and the Australian Government (the Director-General of the State Department is a member of the National Health and Medical Research Council and the (National) Hospital and Allied Services Advisory Council); and
- (x) liaison with professional, medical, dental and nursing associations.

The Director-General is the controlling authority under the Hospital Employees' Award, the Medical Officers' Award and the Nurses' (Public Hospitals) Award. Headquarters also controls and maintains Crown property occupied by the various sections of the Department and deals with the appointment and salaries of staff who are not officers of the Public Service.

### *Division of Road Safety*

This Division is primarily concerned with development and implementation of government road safety policy and legislation and co-ordinating government and private facilities to reduce road accidents.

The Division operates a State-wide schools road safety education program. In addition to school education, the Division is responsible for general road safety publicity and public education and administers activities of the Road Safety Council of Tasmania.

### *School Dental Health Service*

This service, available free to children attending school, aims to examine and treat every child each six months, but continued staff shortages have prevented this from happening. At the end of June 1974, 29 permanent clinics were operating at urban centres throughout the State while 24 mobile units provided services in most country districts.

An orthodontic service is based in Hobart; mobile and permanent clinics give a State-wide therapeutic service.

*Dental Nursing:* Adopting the New Zealand system, Tasmania became the first Australian State to develop a School of Dental Nursing. Twenty first-year and 20 second-year students are trained, together with 10 students on behalf of the Australian Government (these are employed in the A.C.T. after graduation). Eight classes have graduated since January 1968 after two-year courses, and the graduates have been appointed to clinics. The school, with a residential hostel attached

providing accommodation for 30 students, is located in Hobart, and up to 120 patients a day are treated there. It is expected that a total of approximately 100 dental nurses will work in rural and metropolitan areas; a recognised dental nursing certificate is required for a nurse to be appointed to such a field position.

### *Fluoridation*

In 1953 Beaconsfield became the first local government authority to add fluoride to its water supply and Launceston followed in 1961. In 1964 Hobart became the first Australian capital city to add fluoride to its water supply.

A Royal Commission inquired into fluoridation of water supplies in 1968. It reported favourably and recommended its extension throughout the State. The State Government passed the *Fluoridation Act* 1968, setting up a Fluoridation Committee with power to recommend to the Minister for Health the fluoridation of any public water supply and to oversee fluoridation operations. It is required to report annually to the Minister who must lay the report before Parliament.

By July 1974 fluoridation had been extended to the City of Glenorchy, the urban portions of the Clarence and Kingborough Municipalities, the towns of Devonport, Burnie, Bridgewater, Brighton, Kempton, Pontville, New Norfolk, Richmond, Sorell-Midway Point, Campania, Cambridge, Kingston, Blackmans Bay, Huonville, Ranelagh, Margate, Snug, Strathgordon, all towns on the West Tamar and North Esk Regional Water Supplies and Deloraine.

### *District Medical Service*

In 1937 the Government undertook to help the more remote municipalities obtain medical services; at present, participating municipalities levy a rate under the *Local Government Act* 1962, as amended, and meet between one-half and one-third of the cost of the scheme.

The scheme provides a general practitioner service free to all residents of the municipality for consultations and home visits. A surgery is usually attached to the district medical officer's house, and branch surgeries are sometimes located elsewhere within the district. Attention out-of-hours is charged for in accordance with a set scale, as are insurance medical examinations, compensation treatment and attention to visitors to the State.

As well as general practice, activities include the dispensing of drugs if no chemist is available; duties as Medical Officer of Health (under the *Public Health Act*) if a municipal council requests it; in some cases duty as superintendent, if there is a district hospital within the municipality; attention to district nursing hospitals; and post mortem examinations.

### *Pharmaceutical Services Section*

The Pharmaceutical Services Section has numerous advisory, supervisory and regulatory functions under regulations and legislation relating to narcotics, poisons, dangerous and therapeutic drugs.

### *Alcohol and Drug Dependency Board*

This Board was established under the *Alcohol and Drug Dependency Act* 1969; its members are appointed by the Minister for Health from the medical, pharmaceutical, social service, police and legal professions. Its functions are: (i) to keep under review all matters relating to the prevention and treatment of alcohol and drug dependency; (ii) to advise in the declaration and control of substances as drugs under the Act; and (iii) to act as a board of appeal for applications by patients for discharge from treatment centres.



The treatment and rehabilitation of sufferers of alcohol and drug dependency is handled by the Mental Health Services Commission; the Commission's acute psychiatric units (at Wynyard, Devonport and Launceston), the Royal Derwent Hospital, the Royal Hobart Hospital and the John Edis Hospital have been declared treatment centres.

#### *State Drug Advisory Committee*

This advises on the nature, strength and variety of drugs to be supplied to public hospitals and institutions by the medical store of the Supply and Tender Department. It is not concerned with administration but helps the store to avoid stocking drugs with different names but similar properties, and stocking drugs not likely to be required.

#### *Nursing*

Nursing training is under the control of the Nurses' Registration Board. Of the State's nursing training schools, eight are general, six midwifery, two child health, one psychiatric and one geriatric. There are nine general, one psychiatric and one geriatric training schools for auxiliary nurses (nursing aides).

#### *Tourist Nursing Service*

This service is based on the fact that trained nursing sisters from outside Tasmania like to visit the State and have a working holiday. These 'tourist nurses' are employed for short periods in hospitals or district nursing centres. Not more than two months service at any one time is required of a sister in any one place but she may stay longer.

### **Division of Public Health**

#### *General*

The Division of Public Health has responsibility for the preventive medical services of the State. The Director is responsible for the operation of the *Public Health Act* 1962 (as amended) and the control of medical officers of health and other health officers employed by the Department of Health Services and municipalities throughout the State. A major responsibility is public immunisation programs, conducted through the municipalities; preparations distributed include the Sabin anti-poliomyelitis vaccine and the triple antigen vaccine (against whooping cough, tetanus and diphtheria). The Division is responsible for the Nutrition Advisory Service; industrial hygiene; environmental sanitation; pure food and pure drug quality control; and the public health aspects of the building regulations. Other major functions are discussed separately in the following sections.

#### *Notifiable Diseases*

Certain diseases, including serum hepatitis, food poisoning in two or more associated cases, ornithosis, salmonella and shigella infections, are notifiable under the *Public Health Act*, the aim being to prevent or check their spread.

Special conditions apply to venereal diseases. Persons suffering from them must not marry until cured, or engage in the manufacture or distribution of food-stuffs, and are liable to arrest and detention if they fail to continue treatment until cured.

Quarantine provisions and tuberculosis are dealt with in later sections.

The following table shows the incidence of notifiable diseases in Tasmania for a five-year period:—

**Notifiable Diseases Reported to Department of Health Services**  
**Number of Cases**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Amoebiasis .. .. .	1	..	..	..	..
Cholera .. .. .	..	..	..	1	..
Diphtheria .. .. .	1	..	..	..	..
Food poisoning in two or more associated cases .. .. .	..	2	5	..	..
Gonorrhoea .. .. .	75	116	112	162	230
Hydatids .. .. .	17	8	9	7	9
Infectious hepatitis .. .. .	400	319	186	55	36
Leptospirosis .. .. .	3	..	12	..	1
Malaria .. .. .	2	1	1	1	1
Salmonella infections .. .. .	10	14	12	33	27
Serum hepatitis .. .. .	..	..	..	..	1
Shigella infections .. .. .	6	1	1	21	14
Syphilis .. .. .	7	7	9	2	4
Tetanus .. .. .	1	2	1	1	..
Tuberculosis .. .. .	48	48	43	54	48
Typhoid fever (incl. paratyphoid) .. .. .	1	..	2	1	..
Urethritis .. .. .	3	7	2	..	..
Total .. .. .	575	525	395	338	371

### *Child Health Service*

Child health nurses attached to child health centres advise mothers on the care and up-bringing of their babies and younger children. In 1974 there were 99 centres and 15 travelling units. Voluntary child health committees working for the centres raise money for furnishings and equipment and buildings erected by the Department. The functions of the centres include examination of babies, maintenance of individual histories, and advice on diets, feeding techniques and hygiene. Phenistix tests are carried out for the detection of phenylketonuria, a rare complaint which results in mental deficiency if not treated in infancy. New-born babies are visited in their homes by the sisters; details of births and addresses are supplied by the hospitals.

*The Mothercraft Home:* This home, located in Hobart, provides training for qualified nursing sisters who want to gain child health nursing certificates and for women who want to become mothercraft nurses. It accommodates children under two years who need care or who cannot be looked after at home, and mothers learning to look after children or having feeding problems. When space is available, children under two years can be boarded in the Home for short periods.

### *School Health Service*

This is available free to children under 16 years at both state and non-government schools. The aim is for an annual inspection at each school by a medical officer, but staff shortages have limited this to examinations at school entry, next at 11, and finally at 15 years. Children requiring review or examination for any condition causing concern are also examined by school doctors who particularly look for conditions likely to affect a child in a school situation. Parents can make appointments for their children to be examined at centres in Hobart, Launceston, Devonport and Burnie.

School nursing sisters visit schools regularly to supervise the health and hygiene of pupils. They maintain medical records, perform cleanliness inspections, test sight and hearing, assist at medical examinations and follow up when defects are notified. They contribute to health education, research projects and may organise immunisation sessions at their schools.

### Health Education

The Health Education Council is composed of representatives of the Division of Public Health, the Education Department, the Mental Health Services Commission, the Adult Education Board and several other interested persons. The Council's aim is public education by distribution of information on health matters.

### Mental Health Services Commission

#### Introduction

Significant advances have been made in the field of clinical psychiatry and in the treatment of mental illness during the past three decades. The development of psychotropic drugs, new therapeutic techniques and improved methods of clinical practice have revolutionised the mental hospital from an institution for the incarceration of lunatics to a modern hospital geared to the care and rehabilitation of the sufferers of psychiatric disorders.

#### Administration

The Mental Health Services Commission was established under the *Mental Health Services Act 1967*, following an interdepartmental investigation into psychiatric services in Tasmania. The Commission comprises three members: a Medical Commissioner, a Clinical Commissioner (being Professor of Psychiatry at the University of Tasmania) and an Administrative Commissioner. Since 1 July 1968, the Commission has operated as a statutory authority, completely separate from the Department of Health Services.

Ultimately, the Mental Health Services Commission aims to provide integrated community services and to this end has established acute psychiatric units at Launceston, Wynyard and Latrobe. These regional units are closely linked to the public hospital complexes.

In September 1972, the Commission formally took over the Tasmanian Chest Hospital at Creek Road, Hobart and re-named the institution the John Edis Hospital. The facilities at this hospital have enabled the services for alcoholism and psychiatric disorders, formerly carried out at Clare House, New Town, to be expanded.

The principal institution under the control of the Commission is the Royal Derwent Hospital.

#### Royal Derwent Hospital

The following table shows the diagnosis of mental illness of patients in the Royal Derwent Hospital (incorporating Millbrook Rise):

Royal Derwent Hospital (a)  
Diagnosis of Mental Disorder of Patients, 1973-74

Mental disorder	Patients admitted (b) 1973-74			Patients at 30 June 1974		
	Males	Females	Total	Males	Females	Total
Senile and pre-senile dementia	17	19	36	16	62	78
Alcoholic psychosis ..	10	7	17	13	8	21
Psychosis with intracranial infection .. ..	1	..	1	2	..	2
Psychosis with other cerebral condition .. ..	3	1	4	11	14	25
Psychosis with other physical condition .. ..	1	1	2	1	3	4

**Royal Derwent Hospital (a)—continued**  
**Diagnosis of Mental Disorder of Patients, 1973-74**

Mental disorder	Patients admitted (b) 1973-74			Patients at 30 June 1974		
	Males	Females	Total	Males	Females	Total
Schizophrenia .. ..	69	55	124	129	79	208
Affective psychoses .. ..	24	50	74	12	22	34
Paranoid states .. ..	..	2	2	11	8	19
Other psychoses .. ..	2	..	2	2	..	2
Neuroses .. ..	15	17	32	3	10	13
Personality disorders .. ..	64	39	103	19	9	28
Alcoholism .. ..	236	32	268	38	4	42
Drug dependency .. ..	13	11	24	..	5	5
Transient situational disturbances .. ..	7	5	12	1	..	1
Behaviour disorders of childhood .. ..	..	..	..	2	1	3
Mental disorders not specified as psychotic associated with physical conditions ..	14	9	23	9	9	18
Mental retardation—						
Borderline .. ..	15	13	28	3	11	14
Mild .. ..	5	5	10	28	20	48
Moderate .. ..	6	11	17	59	58	117
Severe .. ..	10	10	20	69	83	152
Profound .. ..	5	..	5	25	28	53
Unspecified .. ..	..	..	..	10	5	15
Other .. ..	6	3	9	1	2	3
Total .. ..	523	290	813	464	441	905

(a) Includes Millbrook Rise Hospital.

(b) Excludes those returned from leave.

The Royal Derwent Hospital (at New Norfolk) is the State's principal centre for the treatment of psychiatric disorders and for caring for the mentally retarded. The hospital is divided into six sections and patients are allocated to the sections on the basis of their medical diagnosis. The basic division of patients is into those who are psychiatric patients and those who are suffering from mental sub-normality.

**Royal Derwent Hospital (a)**  
**Number of Patients Admitted, Discharged and Deaths, 1973-74**

Particulars	Males	Females	Total
Patients at beginning of year .. ..	463	438	901
Patients admitted—			
First time .. ..	244	99	343
Re-admitted .. ..	279	191	470
Returned from leave .. ..	35	16	51
Total .. ..	558	306	864
Patients discharged, etc.—			
Discharged from hospital .. ..	345	221	566
Proceeded on leave .. ..	183	49	232
Died .. ..	29	33	62
Total .. ..	557	303	860
Patients at end of year .. ..	464	441	905

(a) Includes Millbrook Rise Hospital.

*Other Institutions*

*Hobart:* (i) The Combined Children's Centre was opened in February 1968 for the treatment of psychiatrically disturbed children referred to the Centre by private medical practitioners, the Royal Hobart Hospital, Social Welfare Department, School Medical Service and the Guidance Branch of the Education Department. At 30 June 1974, there were 730 children under treatment.

(ii) The Day Minding Centre was opened in September 1968 to care for severely mentally retarded children, many of whom are also physically retarded. At 30 June 1974, 36 children were enrolled at the Centre, and 10 were on the waiting list.

*Launceston:* (i) The Lindsay Miller Clinic at the Launceston General Hospital reported the following attendance figures during 1973-74: out-patient visits, 3 656; day patient visits, 2 304; in-patients, 588. Psychological consultations totalled 179 and social work consultations, 2 159.

(ii) The Children's Centre at Launceston was opened on 23 October 1972 and attendance figures for 1973-74 were: new cases, 108; old cases, 474.

*North-West:* In-patient facilities are provided at the Mersey General Hospital and the Spencer Division of the North-Western General Hospital.

Various centres provide facilities for out-patient treatment on the north-west coast. During 1973-74, the North-Western General Hospital, Spencer Division, treated 1 251 out-patients; Burnie Division, 1 616; Smithton District Hospital, 243; Devonport and Ulverstone Clinics, 2 074.

**Division of Tuberculosis**

The Division is concerned with case-finding, diagnosis, treatment and long-term supervision of tuberculosis cases. It also conducts mass B.C.G. vaccination of high school students as a preventive measure.

The following table shows the confirmed diagnosis of tuberculosis cases notified in Tasmania over a five-year period:

New Cases Notified to Tuberculosis Division  
Classification by Diagnosis and by Sex

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Pulmonary .. .. . males	25	30	25	26	33
females	12	8	12	18	9
Tuberculous pleural effusion .. . males	2	..	2	1	1
females	..	..	..	2	..
Tuberculous meningitis .. . males	..	1	..	..	..
females	1	..	1	1	..
Primary tuberculosis .. . males	..	..	..	..	..
females	..	..	..	..	..
Non-pulmonary cases .. . males	3	2	1	..	2
females	3	4	1	1	4
All new cases .. . males	30	33	28	27	36
females	16	12	14	22	13
persons	46	45	42	49	49

Under a federal arrangement, the Tasmanian Government is reimbursed by the Australian Government for approved capital and maintenance expenditure in the tuberculosis field.

An allowance is paid by the Australian Department of Social Security to those tuberculosis sufferers who need to stop work or to enter hospital. The allowance is subject to a means test on income (but not on property) and provides \$36.00 a week for a single person in hospital and \$39.25 weekly while at home; married sufferers at home or in hospital are paid \$63.50 per week plus \$5.50 for each dependent child.

Patients are treated at the Royal Hobart Hospital. The X-ray campaign has led to a reduction in demand for in-patient treatment and to generally shorter periods in hospital.

### State Controlled Hospitals

#### *General*

In Tasmania medical establishments include hospitals, nursing homes, geriatric establishments, convalescent homes, orthopaedic units, etc. Some are privately administered while the State Government accepts the major financial responsibility for others; in the case of the latter group, control is either direct or exercised through hospital boards.

Institutions controlled by the State include four general hospitals, 14 district hospitals, 13 district nursing hospitals with bed accommodation, one mental hospital, two maternity hospitals and three hospitals for the aged. (The Department of Health Services directly administers one hospital for the aged.) These institutions could all legitimately be described as 'public'. However, in the tables in this section, the term 'public' is applied only to the general and district hospitals, the other types of institutions being specified separately.

#### *General Hospitals (Public)*

Hospitals providing all facilities and specialised treatment are the Royal Hobart, Launceston General, Mersey General (at Latrobe) and North-Western General (with divisions at Burnie and Wynyard). The Queen Alexandra (Hobart) and the Queen Victoria (Launceston) are maternity hospitals.

Specialist treatment is available at general hospitals in obstetrics, gynaecology, orthopaedics, urogenital surgery, plastic and reconstructural surgery, neuro-surgery and neurology, radiology, pathology, radiotherapy, psychiatry and ophthalmology; skin diseases and venereal diseases are also treated and clinics operate in thoracic medicine and surgery. An emergency obstetrical service, with specialists based in Hobart and Launceston, provides a free service to the smaller public hospitals, district nursing hospitals and district medical officers outside the two cities.

The Lady Clark Hospital, an annexe of the Royal Hobart Hospital, is a rehabilitation and physiotherapy centre with both in-patient and out-patient facilities.

The Peacock Convalescent Hospital in Hobart is run by a committee of management, most of its patients being referred from the Royal Hobart Hospital.

All district nursing hospitals, formerly administered by the Department of Health Services, have been administered as annexes by various general or district hospitals since 1 July 1968, the parent hospital in each case being selected on a geographical basis.

#### *Fees*

As from 1 July 1975, the Tasmanian Government entered into an agreement with the Australian Government for the sharing of net operating costs for all recognised hospitals under the *Commonwealth and State Hospital Services Agreement Act 1975*.

A hospital patient is entitled to comprehensive care, free of charge, including all necessary medical, nursing and diagnostic services except in the following cases:

- (a) Hospitals may recover from the insurer, at specified rates, costs in respect of patients who may claim compensation or damages under workers compensation insurance or under the *Motor Accidents (Compensation and Liabilities) Act 1973* or seamen covered by the *Navigation Act 1912-1965*.
- (b) A personal obstetric in-patient who is permitted to have a choice of medical practitioner from among medical practitioners who have been approved for participation in a personal patient scheme (at the Royal Hobart or Mersey General Hospital), under which the patient pays the medical practitioner on a fee-for-service basis and a charge is payable to the hospital by the patient.
- (c) A patient of the Queen Alexandra Hospital (obstetrics) and Queen Victoria Hospital (obstetrics and gynaecology) may elect to be treated as a private patient and be treated by a medical practitioner of her choice on a fee-for-service basis and be charged by the hospital for accommodation in either a single room or other than a single room.

### *Hospitals for the Aged and Invalid*

The State Government administers three hospitals caring for the aged and for invalids. In the table that follows, the distinction is made between 'general' and 'hospital' beds; 'general' refers to beds available for inmates not receiving treatment in the hospital sections of the institutions.

Government Hospitals for the Aged, 1973-74

Hospital	Average daily number of inmates			Beds available			Total persons accommodated during year	Total bed-days
	General	Hospital	Total	General	Hospital	Total		
Cosgrove Park (a) . . . .	104	129	233	141	134	275	349	85 020
St John's Park	27	399	426	40	454	494	1 086	155 633
Spencer Home for the Aged (b) . .	5	25	30	5	25	30	33	10 944
Total . .	136	553	689	186	613	799	1 468	251 597

(a) Cosgrove Park is administered as part of the Launceston General Hospital.

(b) This is a geriatric wing of the Wynyard Division of the North-Western General Hospital (previously the Spencer Hospital).

A new rehabilitation centre is presently under construction at New Town. This centre will cater for a wide range of services, including in-patient services for children and adults requiring hospitalisation because of all forms of disablement e.g. spastic diseases, mental retardation, crippled children and other handicapped persons and disabled persons generally. Domiciliary and day hospital therapeutic and home help facilities will still be based at St John's Park.



*District Hospitals (Public)*

These do not provide the diverse range of services available in the general hospitals, and do not have resident medical officers. They are located at Beaconsfield, Campbell Town, Currie, Franklin, Longford, New Norfolk, Ouse, Queenstown, Rosebery, Scottsdale, Smithton, St Marys, Ulverstone, and Whitemark.

*State Controlled Hospitals: Finances, Staff and Patients*

The following tables give summaries of the financial operation and staff and patient numbers of State controlled hospitals and hospitals for the aged:

**State Controlled Hospitals and Hospitals for the Aged**  
**Receipts and Payments (a), 1973-74**  
**(\$'000)**

Particulars	Hospitals (excluding mental)			Mental hospitals	Hospitals for the aged
	Public (b)	Maternity (c)	Total		
Receipts—					
Government aid—					
State .. .. .	17 412	1 000	18 412	3 840	1 758
Australian Government ..	1 107	15	1 122	56	1 106
In-patient fees .. ..	5 608	908	6 516	495	498
Out-patient fees .. ..	239	..	239	..	..
Other .. .. .	55	1	56	49	16
Total .. .. .	24 421	1 924	26 345	4 440	3 378
Payments—					
Salaries and wages ..	18 539	1 496	20 035	3 517	2 676
Provisions .. .. .	958	92	1 050	(d)	267
Domestic supplies .. ..	1 162	133	1 295	(d)	238
Dispensary, etc. .. ..	2 131	70	2 201	(d)	44
Other .. .. .	1 493	109	1 602	(d)	147
Total .. .. .	24 283	1 900	26 183	4 440	3 372

(a) Excludes expenditure from State Loan Fund.

(b) Includes general and district hospitals; includes maternity wards in public hospitals.

(c) Excludes maternity wards in public hospitals.

(d) Not available on a comparable basis; included in 'Total'.

**State Controlled Hospitals and Hospitals for the Aged**  
**Staff, Accommodation and In-Patients**

Particulars	Hospitals (excluding mental)		Mental hospitals		Hospitals for the aged	
	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74
Hospitals and homes .. no.	20	22	1	1	3	3
Nursing staff .. .. .	50	1,943	189	194	86	..
males .. .. .	1 894		188	190	202	260
females .. .. .	2 171	2 240	1 030	1 030	768	799
Beds available .. .. .	2 171	2 240	1 030	1 030	768	799
In-patients—						
Total number treated						
males .. .. .	23 307	54 780	1 026	1 021	632	1 468
females .. .. .	31 632		812	744	499	
Daily average number of patients during year						
males .. .. .	642	..	449	443	398	662
females .. .. .	837	..	469	453	298	
persons .. .. .	1 479	1 507	918	896	696	
In-patient costs—						
Total .. .. . \$'000	17 924	22 515	4 292	4 440	2 818	3 372
Daily average per patient \$	33.20	46.21	12.81	13.57	11.09	13.96

### Private Medical Establishments

The above establishments, 73 in number, are operated by charitable and church organisations and by private individuals or organisations. Most are concerned with care of the aged but five are hospitals with a more general purpose.

All 73 are registered under Part III of the *State Hospitals Act* but five are also registered under the federal *National Health Act* and *Health Insurance Act* as hospitals. These are Calvary, St John's and St Helen's in Hobart, and St Luke's and St Vincent's in Launceston; all provide medical and surgical services. Of the remaining 68 establishments, 49 are licensed to provide nursing home care; and 19 to provide accommodation for ambulant patients only.

The largest units in the non-hospital group are: Hobart area, A. A. Lord Homes (111 beds), St Ann's Rest Home (110), Freemasons Homes (93), Lillian Martin Home (92), Mary's Grange (91), Strathaven Lodge (89), Queen Victoria Home for the Aged (80); Launceston area, Nazareth House (97 beds), Ainslie House (95); north-western area, Meercroft Home for the Aged (96), Eliza Purton Home for the Aged (80).

### State Health Laboratory

The State Health Laboratory is under the control of the Government Pathologist. Apart from providing certain pathological services to the Royal Hobart Hospital, other hospitals and to doctors, the laboratory provides special bacteriological and cytological services.

The Laboratory is located at the Royal Hobart Hospital; prior to 1965 special tests had to be done in Melbourne, but equipment installed in that year now enables all work to be done in Tasmania. Specimens from suspected T.B. sufferers, discovered in the compulsory chest X-ray program, are examined and uterine and other cancers can be discovered by the Papanicolaou smear test. Tasmania was the first Australian State to introduce this test on a large scale; early diagnosis by this simple and effective method, particularly in women who show no symptoms, usually makes possible the cure of this type of cancer.

Mass screening of new-born babies is done to correct errors of inborn metabolism, especially phenylketonuria, at the laboratory. Other work includes analysis of food, water and milk samples.

### Government Analyst and Chemist Laboratory

This laboratory analyses a wide variety of foods, drugs and other substances and undertakes work for Government departments and the public. Its work includes food and agricultural chemistry, forensic chemistry and toxicology, analysis for industrial hygiene purposes, water and corrosion problems, and other matters such as blood alcohol examinations for *Road Safety (Alcohol and Drugs) Act* purposes.

### Other Health Matters

#### *Child Health Institutions*

These are medical institutions run by the State or subsidised by public funds. They provide treatment and supervision along with general education. The Sight Saving School, School for the Blind and Deaf, Talire (for retarded children) and Wingfield (for orthopaedic patients) are government institutions for children with particular defects.

### *Ambulance Services*

The Ambulance Commission of Tasmania co-ordinates services throughout the State and is responsible to the Minister for their effective operation. Ambulance Boards, centred on Hobart, Launceston, Devonport and Burnie, control services in the adjacent local government areas. A few municipalities, however, operate services outside the *Ambulance Act*. The total Government grant to ambulance services, both under Board and independent control, was \$642 000 in 1974-75.

Ambulance services under control of the four Boards provide free transport for ratepayers, occupiers and pensioners. In addition to receiving Government subsidies, their income is derived from fees (payable by visitors) and municipal grants.

The Ambulance Commission has adopted the training standards of the Victorian Ambulance Officer's Training School.

### *Royal Flying Doctor Service*

This was established in Tasmania in 1960 and has as its purpose the provision of medical and dental services to persons in isolated areas. If the illness or injury is serious, a doctor flies to the patient and if necessary brings him back to hospital. The ambulance services receive the calls, make arrangements to charter aircraft and supply medical equipment. The Australian and State Governments make an annual grant towards operational expenses.

### *Blood Transfusion Service*

Prior to 1954, the Australian Red Cross Society, which operates the service, was assisted only by the State Government; now a grant equal to 35 per cent of operating expenses is made by the Australian Government and a grant equal to 60 per cent of operating expenses by the State. The combined grant in 1974-75 was \$178 821.

### *Municipal Health Functions*

Municipal councils and city corporations possess wide powers and responsibilities in public health. They organise triple antigen immunisation campaigns against diphtheria, whooping cough and tetanus, and vaccinations against poliomyelitis and smallpox. (These are available without charge to children under 17 years). They control the condemnation of sub-standard dwellings, the effective disposal of sewerage and drainage, the provision of garbage and night soil services, the construction of reservoirs and the reticulation of water. A medical officer of health, often appointed by two councils, is responsible, among other things, for: inquiring into the causes, origins and distribution of diseases; investigating influences affecting the public health of the district; directing and supervising the municipal health inspectors in the execution of the *Public Health Act*; inspection of local certificates of notification of infectious disease and direction of control of such disease; reporting the existence of any nuisance; inspection of any animal carcass for sale for human consumption; and inspecting any premises where milk or milk products are produced or stored and for reporting on health of inmates or animals on the premises.

## **Australian Department of Health**

### *General*

The Department is concerned in Tasmania with the maintenance of a quarantine service involving supervision of persons, animals, plants and goods from overseas; the provision of pharmaceutical benefits; tuberculosis allowances; home nursing, mental institutions and other subsidies; the control and maintenance of Pathology and

National Acoustic Laboratories at Hobart and Launceston; co-operation with the State Department of Health Services in planning and taking measures to improve public health, including the anti-tuberculosis and anti-poliomyelitis campaigns, National Fitness and the Community Health Program; the conduct of certain medical examinations; and the supervision of the medical aspects of radio and television advertising and talks on medical matters.

### *National Acoustic Laboratory*

The main function of the laboratory is the provision and maintenance of hearing aids, without charge, to deaf school and pre-school children, and to those whose hearing loss was discovered after leaving school, but who are still under 21 years of age. It also provides and maintains hearing aids on behalf of other Australian Government departments and assists the Education Department in measuring deafness by providing and maintaining portable audio-meters. In addition, the laboratory supplies eligible pensioners with hearing aids and gives the necessary technical services for fitting, re-adjusting, maintaining, etc.

### *National Health Payments*

The following table shows the National Health payments in Tasmania for selected services administered by the Department of Health.

National Health Payments Administered by Australian Department of Health  
(\$'000)

Benefit or service	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74
Pharmaceutical benefits—						
General .. .. .	1 722	1 870	2 224	2 271	2 221	2 700
For pensioners .. ..	1 030	1 125	1 231	1 457	1 681	1 924
Payments to hospitals ..	706	739	919	796	995	1 157
Tuberculosis campaign (a) ..	428	402	412	413	403	308
Free milk scheme (b) ..	421	466	671	504	383	533
Miscellaneous .. .. .	112	119	138	176	212	308

(a) Includes allowances to persons and reimbursements to State Government for approved expenditure.

(b) Free milk scheme abolished in August 1973.

### *Pathology Laboratories*

These laboratories, situated in Hobart and Launceston, provide free diagnostic services for medical practitioners and hospitals. Included in the services available are haematology, histopathology, serology, biochemistry, bacteriology and diagnostic cytology. The laboratories also undertake blood typing and cross-matching services for the Red Cross Blood Transfusion Centres.

### *Quarantine*

Quarantine is administered by the Australian Government and guards against the importation *from overseas* of human, animal and plant infection. The administration of safeguards against infection from *interstate travel and trade* is left to the states unless federal action is necessary for the protection of a state.

Under arrangements with the states, the Australian Government arranges to reimburse state marine boards the cost of installing incinerators at first ports of entry for overseas ships. The incinerators are used to dispose of overseas ships' garbage, reducing the possibility of introduction of diseases. Incinerators are installed at all Tasmanian first ports of call.

*Pharmaceutical Benefits:* Under this scheme, drugs and medicines for patients, who are required to pay a flat charge of \$1.50, can be prescribed by a medical practitioner or by a hospital. Not all drugs and medicines can be supplied under this scheme, but the Health Department's list of approved pharmaceutical preparations is extensive. Under this scheme basic rate pensioners receive their pharmaceutical requirements free of charge.

### HOSPITAL MORBIDITY

In the following tables particulars are given of all in-patients treated in Tasmanian public hospitals, who left hospital during 1974. Patients still in hospital at the end of 1974 will be included in figures for the year in which they leave hospital. Normal maternity patients are included, but babies born in hospital are included only if they receive treatment in excess of that routinely provided for the new-born.

#### Treatment Statistics

The following table analyses patients by age group and length of stay in hospital:

Patients Treated in Public Hospitals: By Age Group and Average Length of Stay, 1974

Age group	Males			Females		
	Number	Per cent of total	Average length of stay (days)	Number	Per cent of total	Average length of stay (days)
Days—						
Under 28 .. .. .	234	1.03	10	168	0.56	11
28-365 .. .. .	821	3.63	8	640	2.14	9
Years—						
1- 4 .. .. .	1 841	8.13	5	1 327	4.44	4
5- 9 .. .. .	1 415	6.25	5	1 000	3.35	4
10-14 .. .. .	1 154	5.10	5	906	3.03	5
15-19 .. .. .	1 446	6.38	8	2 922	9.79	7
20-24 .. .. .	1 356	5.99	9	4 733	15.85	7
25-29 .. .. .	1 011	4.46	7	4 078	13.66	7
30-34 .. .. .	957	4.23	8	2 196	7.36	8
35-39 .. .. .	832	3.67	9	1 494	5.00	8
40-44 .. .. .	1 001	4.42	10	1 172	3.93	10
45-49 .. .. .	1 274	5.62	11	1 271	4.26	12
50-54 .. .. .	1 490	6.58	12	1 223	4.10	11
55-59 .. .. .	1 525	6.73	13	1 121	3.75	14
60-64 .. .. .	1 720	7.59	13	1 160	3.89	15
65-69 .. .. .	1 524	6.73	14	1 203	4.03	16
70-74 .. .. .	1 294	5.71	16	1 190	3.99	19
75 and over .. .. .	1 755	7.75	22	2 050	6.87	32
Total .. .. .	22 650	100.00	11	29 854	100.00	10

Comparable treatment statistics (in total only) for 1973 were:

- (i) Number of in-patients treated in public hospitals—males, 21 483 and females, 29 007.
- (ii) Average stay in hospital—males, 10 days and females, 10 days.

Children aged up to nine years comprised 19.0 per cent of males and 10.5 per cent of females discharged. The high numbers in this age group were due principally to children receiving treatment for diseases of the respiratory system; this disease group accounted for 2 122 cases, or about one-third, of discharges of children under 10 years.

Accidents were the main cause of hospitalisation of males in the 15-34 years age group. Injuries caused by accidents, poisoning and violence accounted for 1 945 cases or 41 per cent of male patients in the age group 15-34 years but accounted for only 718 cases or 5 per cent of female patients in this age group.

The next table analyses the patients, shown in the previous table, by condition treated and by length of stay:

Patients Treated in Public Hospitals: By Condition Treated and Average Length of Stay, 1974

Principal condition treated	Males			Females		
	Number of patients	Total days in hospital	Average stay (days)	Number of patients	Total days in hospital	Average stay (days)
Infective and parasitic diseases	849	9 670	11	751	5 560	7
Neoplasms .. .. .	1 489	20 627	14	1 569	21 825	14
Endocrine, nutritional and metabolic diseases ..	314	4 185	13	450	6 957	15
Mental disorders .. ..	1 081	15 757	15	1 236	19 137	15
Diseases of the—						
Blood and blood forming organs .. .. .	161	1 159	7	187	2 187	12
Nervous system and sense organs .. .. .	996	14 045	14	927	13 175	14
Circulatory system ..	2 644	39 674	15	2 297	45 509	20
Respiratory system ..	2 977	24 199	8	2 113	14 657	7
Digestive system ..	2 514	21 448	9	2 116	19 063	9
Genito-urinary system ..	1 126	11 276	10	2 623	19 126	7
Skin and subcutaneous tissue	480	4 992	10	360	4 485	12
Musculoskeletal system and connective tissue ..	1 224	17 651	14	999	14 353	14
Congenital anomalies ..	376	3 218	9	291	4 643	16
Childbirth, complications of pregnancy and the puerperium .. .. .	..	..	..	8 719	66 376	8
Certain causes (a) of perinatal morbidity and mortality ..	173	3 032	18	167	3 042	18
Symptoms and ill-defined conditions .. .. .	1 587	8 118	5	1 569	14 679	9
Accidents, poisoning and violence .. .. .	4 229	38 732	9	2 327	28 532	12
Other special admissions or consultations .. .. .	430	3 143	7	1 153	7 337	6
Total .. .. .	22 650	240 926	11	29 854	310 643	10

(a) Includes toxæmia of pregnancy, conditions of placenta, birth injury, etc.

Total days in hospital for 1973 were: males, 212 144 and females, 276 759.

Examination of the above table reveals that the seeming imbalance between total male and total female patients is largely accounted for by one classification: 'childbirth, complications of pregnancy and the puerperium'. If data under this classification were eliminated, then male patients would be nearly equal to female patients; the most significant classification affecting males is 'accidents, poisoning and violence' where males outnumbered females nearly two to one. One underlying cause is the greater exposure of males to industrial and road traffic accidents.

## Chapter 16

### LAW, ORDER AND PUBLIC SAFETY

#### LAW IN TASMANIA

##### Origin and Evolution of Tasmanian Law

###### *Original Charters*

By letters patent and Royal instructions issued by King George III in 1787, Captain Arthur Phillip was authorised and empowered to constitute and appoint justices of the peace, coroners, constables, and other necessary officers and ministers for the better administration of justice and for executing the law in the Colony of New South Wales (which then included what is now the State of Tasmania). A warrant for a Charter was issued to establish courts of civil and criminal jurisdiction. It provided that 'Our present and all Our future governors and lieutenant-governors and Our judge advocate for the time being shall be justices of the peace within the said place or settlement and that all and every such justice and justices of the peace shall have the same power to keep the peace, arrest, take bail, bind to good behaviour, suppress and punish riots, and do all other matters and things with respect to the inhabitants residing or being in the place of settlement aforesaid as, justices of the peace have within that part of the Kingdom of Great Britain called England within their respective jurisdictions'.

By a subsequent Charter in 1814 the Deputy Judge Advocate was added as a justice of the peace. Meanwhile, within a year of the occupation and settlement of Van Diemen's Land, warrants had been issued in 1804 appointing a justice of the peace for Van Diemen's Land and another justice of the peace at Port Dalrymple.

###### *Supreme Court of Van Diemen's Land*

In 1823 the Imperial Government passed, as a temporary measure, an Act empowering King George IV to institute a Court of Judicature to be styled the Supreme Court of Van Diemen's Land. It began its activities in May 1824, with Sir John Lewes Pedder as Chief Justice. The Court superseded the Lieutenant Governor's Court, of civil jurisdiction only, which had been set up in 1815 under a Deputy Judge Advocate. In 1828 the Imperial Parliament passed the *Australian Courts Act* (usually known as the Huskisson Act). It empowered His Majesty, as a permanent measure, to establish the Supreme Court of Van Diemen's Land as a court of record having cognizance of all pleas, civil, criminal or mixed, and jurisdiction in all cases as fully as His Majesty's Courts at Westminster. The Court was constituted a Court of Oyer and Terminer and Gaol Delivery and was also granted equitable, admiralty and ecclesiastical jurisdiction.

Courts of General Sessions have a similar history in some respects as their creation by the Colonial Legislature was authorised by the Huskisson Act and they too are now regulated by the *Local Courts Act* 1896.



Other Imperial Statutes that need to be mentioned in connection with the origin and evolution of Tasmanian law are the *Australian Constitutions Act 1850*, which empowered the Colonial Legislature to make provisions for the better administration of justice and for defining the constitution of the Courts of Law and Equity and of juries within the Colony; and also the *Colonial Laws Validity Act 1865* which recognised that a Colonial Legislature at all times had full power within its jurisdiction to establish Courts of Judicature, and to abolish and reconstitute them, to alter their constitution, and to make provision for the administration of justice in them.

The Huskisson Act also empowered the Colonial Legislature to constitute Courts of Quarter Sessions with power and authority to try, in a summary way, all crimes, misdemeanours and other offences or misconduct not punishable by death. The Legislature of Van Diemen's Land accordingly instituted Courts of Quarter Sessions, which were also given jurisdiction to hear appeals from Justices of the Peace. In 1857 the Colonial Parliament passed a further Act providing for the appointment of Recorders to hold Courts of General Sessions as Courts of Criminal Jurisdiction. Two years earlier it had passed the *Magistrates Summary Procedure Act* and the *Magistrates Criminal Procedure Act*, which defined the duties of Justices of the Peace concerning summary convictions and orders and persons charged with criminal offences. These latter two Acts were subsequently superseded by the *Justices Procedure Act 1919* and finally by the *Justices Act 1959*. Courts of Quarter Sessions have long ceased to exist in Tasmania.

All persons convicted of offences before the Court were to be liable to suffer the same pains, penalties and forfeitures as persons similarly convicted in England. Offences were to be prosecuted by information in the name of the Attorney-General or other officers duly appointed by the Governor. By leave of the Court, however, a private person could bring a criminal information against another person.

The Huskisson Act also provided that all laws and statutes in force within the realm of England at the time of the passing of the Act should be applied in the administration of justice in the Courts of Van Diemen's Land so far as the same could be applied within the Colony. The Governor was given the power to resolve by ordinance such doubts as might arise as to the applicability of English law and to limit or modify such law. Until any such ordinance might be made, questions of doubt were to be settled by the Supreme Court.

Pursuant to the Huskisson Act, the Charter of Justice was granted by King William IV in 1831. By this Charter, the Supreme Court of Van Diemen's Land was created and constituted a Court of Record consisting of the Chief Justice and the Puisne Judge. The Huskisson Act had given the Judges power to make rules and orders regarding the practice and procedure in proceedings before the Court but, in 1854, the Legislature of Van Diemen's Land passed the *Common Law Procedure Act* which regulated all such matters and this Act was replaced many years later by the present statute, the *Supreme Court Civil Procedure Act 1932*.

### *Origin of Other Courts*

The Huskisson Act empowered the legislature of Van Diemen's Land by laws or ordinances to institute Courts of Requests with power and authority to hear and determine, in a summary way, claims in debt or damages not exceeding \$20, to be held before a Commissioner to be appointed by His Majesty. In the exercise of this power the Colonial Legislature in 1820 passed an Act 'to institute Courts of Requests' and since that date a number of statutes dealing with the subject have been passed. Courts of Requests are now regulated by the *Local Courts Act 1896*.

### Juries

Tasmanian legislation regulating juries seems to have been first passed in 1830 although, for many years before that date, the introduction of the British system of trial by jury in civil and criminal cases had been persistently urged in the Colony. The *Hobart Town Gazette* shows that juries had been employed in the Colony for the trial of criminal cases from the establishment of the Supreme Court in 1824. Juries remain as the tribunal for trying indictable criminal cases and there is a limited right to a jury in civil actions, although in 1935 they were abolished for the purpose of trying motor accident cases.

Although the Tasmanian jury system was based on the English system it has, since 1934, embodied the principle of allowing *majority* decisions in certain circumstances instead of requiring the *unanimous* decisions once characteristic of jury usage in England and most other countries.

Civil cases have a seven-member jury and, if after three hours deliberation a seven-nil decision cannot be reached, a five-two decision is accepted. If the minimum five-two decision cannot be reached after four hours, the jury may be discharged.

In criminal cases, similar principles apply except that a 10-2 decision is accepted in lieu of 12-nil after stipulated periods of deliberation. In the case of murder, 12-nil is necessary to convict, but 10-2 can bring in a verdict of not guilty, or not guilty of murder but guilty of a lesser crime.

### Revision of the Criminal Code

The *Criminal Code Act* 1924 codified and brought together the criminal law of Tasmania. The Act embodied the State's criminal law in the form of a code which was made a schedule to the 1924 legislation.

As a result of a review of the State's criminal law the *Criminal Code Act* 1973 was passed by Parliament. This statute embodied many important amendments to the Criminal Code; most of the changes stemmed from recommendations made by the Law Reform Committee of Tasmania. Among the more important changes were:

- (i) Repeal of the distinction between burglary and housebreaking. Prior to the 1973 Act the Criminal Code had perpetuated an archaic distinction between burglary which was committed at night and housebreaking which was committed by day.
- (ii) The more serious offence of aggravated burglary (i.e. where a person uses or carries a firearm or offensive weapon or uses force in the commission of a burglary) was incorporated in the code.
- (iii) A new offence of kidnapping was included.
- (iv) A section covering bomb threats was written into the legislation.
- (v) The infanticide provisions were extended to cover mothers of children up to 12 months of age.

Since passage of the *Criminal Code Act* 1973 further amendments have been made. The more important follow:

- (i) The provisions of the code relating to nuisance were revised and expanded to complement the *Environment Protection Act* 1973.
- (ii) The power of a judge to order whipping as a punishment for violent crimes was abolished.

- (iii) Section 124 was amended to make it a crime to have unlawful carnal knowledge of a girl under 17 years of age, i.e. the 'age of consent' was lowered from 18 years to 17 years. Consequently, amendments were also made to a number of other sections of the Code.

### The Present Law Court System

#### *Courts of Petty Sessions*

For particular municipalities in the State, there is a Court of Petty Sessions. The Court is constituted by a magistrate (who must be a legal practitioner or barrister for not less than five years) or by two or more lay justices. In major centres of population, a Court sits regularly and, in smaller centres, a Court sits less frequently or is convened as occasion requires.

A Court of Petty Sessions has jurisdiction over all summary offences and also over certain indictable offences at the option of the defendant. Under the *Justices Act 1959*, a defendant may choose summary trial in the Court of Petty Sessions when charged with the following crimes: (i) Escape or rescue; facilitating escape of a prisoner or harbouring an offender; assisting escape of a criminal lunatic; rescuing goods legally seized; making a false declaration (or statement). (ii) Stealing; killing an animal with intent to steal, unlawfully branding an animal; obtaining goods by false pretence; cheating; fraud in respect of payment for work; receiving stolen property. (In all these cases the value of the property concerned must exceed \$20 but not \$400. If the value does not exceed \$20 the defendant will be tried summarily. If it exceeds \$400 he will be committed for trial in the Supreme Court.) (iii) Breaking a building other than a dwelling-house. (It is necessary for the defendant to be committed to the Supreme Court for trial where it is alleged that in the commission of the offence, property to the value of more than \$400 has been stolen; violence has been used or offered to any person in or about the building; the person had in his possession a gun, pistol, dagger, cosh, or other offensive weapon; explosives were used; or the defendant intended to commit a crime other than stealing.) (iv) Forgery; uttering. (The complaint must be for an offence in respect of a cheque for not more than \$400.)

The following table shows the number of cases tried in the lower courts over a five-year period. (Minor traffic offences settled without court appearance are excluded.)

Cases Tried in Lower Courts

Offence				1970	1971	1972	1973	1974
Offences against—								
The person	..	..	Males	953	1 021	1 181	1 198	1 319
			Females	34	36	43	51	38
Property	..	..	Males	4 095	5 692	6 238	4 513	4 989
			Females	397	469	538	523	361
The currency	..	..	Males	340	229	165	397	303
			Females	31	79	68	266	80
Good order	..	..	Males	1 962	2 319	2 638	2 835	3 412
			Females	70	148	167	205	191
Traffic regulations	..	..	Males	19 935	20 833	24 097	23 811	27 291
			Females	1 097	1 269	1 613	1 611	1 884
All other offences (a)	..	..	Males	7 185	9 241	10 905	8 610	7 188
			Females	520	878	1 010	870	930
Total offences	..	Males		34 470	39 335	45 224	41 364	44 502
			Females	2 149	2 879	3 439	3 526	3 484

(a) Includes offences mainly against liquor, education, neglected children, revenue, gambling suppression laws, desertion of wives and children, perjury and subornation, and conspiracy.

The following table shows cases tried and their results (minor traffic offences settled without court appearance are excluded):

Lower Courts, 1974

Offence	Cases tried	Results of trials				
		Convictions	Committed to higher courts	Adjourned sine die	Dismissed or withdrawn (a)	Remanded
MALES						
Offences against—						
The person .. ..	1 319	751	180	194	173	21
Property .. ..	4 989	3 634	504	433	346	72
The currency .. ..	303	194	74	5	26	4
Good order .. ..	3 412	2 434	4	671	286	17
Traffic regulations ..	27 291	18 803	13	2 578	5 797	100
All other offences (b) ..	7 188	5 146	38	801	1 197	6
Total .. ..	44 502	30 962	813	4 682	7 825	220
FEMALES						
Offences against—						
The person .. ..	38	27	2	6	3	..
The property .. ..	361	279	21	24	37	..
The currency .. ..	80	77	3	..	..	..
Good order .. ..	191	143	..	35	13	..
Traffic regulations ..	1 884	1 213	..	95	576	..
All other offences (b) ..	930	563	2	66	299	..
Total .. ..	3 484	2 302	28	226	928	..
PERSONS						
Total .. ..	47 986	33 264	841	4 908	8 753	220

(a) 'Dismissed' is equivalent to 'not guilty' in higher courts.

(b) Includes offences mainly related to liquor, education, neglected children, revenue, gambling, desertion of wives and children, perjury and subornation, and conspiracy.

### Courts of Request

These are constituted as courts with civil jurisdiction for particular municipalities in accordance with the authority given by the *Local Courts Act* 1896. Courts are held before a commissioner who is usually a magistrate. The Attorney-General fixes the dates on which these courts sit.

Every Court has jurisdiction throughout the State but a plaintiff may lose costs if he brings his action in a Court other than the Court nearest to which the cause of action arose.

The jurisdiction of a Court of Requests, which is a court of record, covers all personal actions where the debt or damage claimed does not exceed the maximum amount fixed under the Act. Since 1 November 1966, the sum of \$1 500 has been fixed as the maximum jurisdiction for a Court of Requests in respect of a debt or liquidated sum, and \$1 000 in any other case.

The Commissioner alone determines all questions of fact as well as of law and his decision is the judgment of the Court, unless a jury is required. In any action either party may require a jury as of right and there is power for the commissioner to order that an action be tried by a jury, even though neither party has required it.

Law and equity are administered concurrently in the Court and the general principles of practice in the Supreme Court are adopted and applied in cases not expressly provided for in the Act or Rules.

### *Courts of General Sessions*

A Court of General Sessions with civil jurisdiction is constituted under the *Local Courts Act* 1896 for particular municipalities of the State. The cities are excluded, civil actions there being dealt with by Courts of Requests. A Court of General Sessions is constituted by a chairman (elected by the justices for the municipality) and at least one other justice. All questions are decided by a majority of the justices present and, if they are equally divided in opinion, the chairman has both a deliberative and a casting vote. If there is business requiring its attention, the Court sits at times fixed by the Attorney-General.

A Court of General Sessions has jurisdiction to deal with civil proceedings of a minor nature and the limit of the Court's jurisdiction has been fixed at the sum of \$100.

### *The Supreme Court of Tasmania*

The following table shows the number of convictions in the Supreme Court:

Supreme Court Convictions

Offences	1973		1974	
	Males	Females	Males	Females
Offences against the person—				
Murder .. .. .	2	..	1	..
Attempted murder .. .. .	1	..	..	..
Manslaughter—Other than while driving .. .. .	3	..	4	..
While driving .. .. .	..	..	4	..
Dangerous or negligent driving .. .. .	17	..	19	..
Rape .. .. .	4	..	6	..
Other unlawful carnal knowledge .. .. .	..	..	31	..
Incest .. .. .	2	..	1	..
Other offences against females .. .. .	48	..	3	..
Indecent practices between males .. .. .	5	..	10	..
Unnatural carnal knowledge .. .. .	2	..	2	..
Robbery .. .. .	27	3	19	2
Malicious wounding .. .. .	2	4	5	..
Aggravated assault .. .. .	7	..	2	..
Common assault .. .. .	5	..	12	..
Other offences against the person .. .. .	2	..	2	..
Offences against property—				
Burglary; break and enter; break, enter and steal ..	116	9	95	2
Receiving, incl. possession of stolen goods .. .. .	9	1	5	..
Fraud and false pretences .. .. .	11	..	15	2
Arson, n.e.i. .. .. .	1	1	6	..
Stealing .. .. .	37	1	33	4
Other offences against property .. .. .	2	..	2	..
Forgery and offences against the currency .. .. .	..	3	6	3
All other offences .. .. .	14	1	16	..
Total (a) .. .. .	317	23	299	13

(a) There are fewer Supreme Court Cases tried than the number committed from the lower courts would lead one to expect. This is because: (i) *complaints* often embrace several *offences* in the lower courts; (ii) some cases are not proceeded with. Higher court cases often proceed under different offences titles from those under which the lower court committals were made.

The following table shows the number of convictions in the higher courts over a five-year period:

**Supreme Court Cases: Convictions**

Offences	1970	1971	1972	1973	1974
Offences against—The person .. ..	108	90	105	134	123
Property .. ..	212	290	210	188	164
Forgery and offences against the currency .. ..	8	6	5	3	9
All other offences .. ..	9	17	4	15	16
Total .. ..	337	403	324	340	312

The Supreme Court of Tasmania is constituted by the Chief Justice and four Puisne Judges. Regular sittings of the Court are held at Hobart, Launceston and Burnie, although the Court is empowered to sit and act at any time and at any place for the exercise of any part of the jurisdiction and business of the Court.

The Court has jurisdiction over all causes, both civil and criminal, except those reserved for the High Court of Australia under the Australian Constitution. It also exercises federal jurisdiction in matters such as matrimonial causes, bankruptcy, etc. Its civil jurisdiction extends to all causes of action, whatever the amount involved may be, and its criminal jurisdiction includes the trial of all indictable offences. In civil cases, the Court has power to call in the aid of one or more assessors specially qualified to assist in the trial of the actions, but it is not bound by the opinion or advice of any such assessor.

There is an appeal to the Supreme Court of Tasmania from all inferior courts and from many statutory tribunals.

Law and equity are administered concurrently in the Court which is enjoined to grant, either absolutely or on such terms and conditions as seem just, all such remedies to which any of the parties may be entitled so that, as far as possible, all matters in controversy between the parties may be completely and finally determined, and a multiplicity of legal proceedings avoided. The judges, on the recommendation of the Rules Committee, are empowered to make rules regulating the practice and procedure of all proceedings in the Court.

The jurisdiction of the Court is usually exercised by a judge of the Court and from his decision there is an appeal to the Full Court of the Supreme Court of Tasmania. A Full Court consists of two or more Judges of the Court. The Full Court is also a Court of Criminal Appeal under the Criminal Code. The latter is a Court to which appeals may be brought by the Crown or by an accused person where an indictable offence is involved. In some cases, there is an appeal as of right but, in other cases, special leave is required.

#### *The High Court of Australia*

This Court was created by the Australian Constitution and it has both original and appellate jurisdiction. It is constituted by the Chief Justice of Australia and six other Justices.

There is an appeal as of right to the High Court from the Supreme Court of the State in any civil matter where the sum involved amounts to at least \$3 000 or where the decision under appeal affects the status of any person under the laws relating to aliens, marriage, divorce, bankruptcy or insolvency. In other cases (including criminal cases) there is an appeal to the High Court if leave or special leave is granted.

Sittings of the High Court of Australia are held in each capital city and one sitting is held in Hobart each year if the volume of business warrants it. Otherwise, Tasmanian cases are usually heard either in Melbourne or Sydney.

### *Privy Council*

An appeal lies direct from the Supreme Court to the Privy Council in a civil action where the amount involved is not less than \$2 000 and in other cases an appeal may be heard by special leave. Special leave may also be obtained to appeal to the Privy Council from a decision of the High Court of Australia. However, as from 1 September 1968 the High Court of Australia became the final court of appeal in all cases involving Australian Government law (i.e. in litigation instituted after 31 August 1968 involving laws of the Australian Government, there is no right of appeal to the Privy Council).

### *Tribunals*

There are many tribunals which are not true courts and the powers and functions of these depend upon the detailed provisions of the particular statute under which they operate. Certain specialised courts have been created by statute. For example there is the Wardens' Court constituted under the *Mining Act* 1929 and the Licensing Court under the *Licensing Act* 1932.

### *Coroners' Courts*

Coroners are appointed by the Governor and have jurisdiction throughout the State. Under the *Coroners Act* 1957, a coroner may hold an inquest: (i) Concerning the manner of death of any person who has died a violent or unnatural death, who died suddenly without the cause being known, or who died in a prison, or mental institution; at the direction of the Attorney-General, he may also be required to hold an inquest concerning any death. (ii) Concerning the cause of any fire if the Attorney-General has directed, or has approved a request by the owner or insurer of the property; or at the request of the Fire Brigades Commission or the Rural Fires Board.

The coroner usually acts alone in holding an inquest, but either the Attorney-General or the relatives of the deceased may request that a four or six-man jury be empanelled. After considering a post-mortem report the coroner may dispense with an inquest, unless the circumstances of death make an inquest mandatory under the Act.

The duty of the Court is to determine who the deceased was, and the circumstances by which he came to his death. Medical practitioners and other persons may be summoned to give evidence. In the case of the death of an infant in a nursing home, the coroner may also inquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a coroner can issue a warrant for apprehension.

### *Children's Courts*

A 'child' in this jurisdiction is one under the age of 17 years. The Court, before finally disposing of the case, must receive a report from a child welfare officer (the representative of the Director of Social Welfare), unless the Court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross-examine witnesses, or to be represented by counsel; also a parent can be compelled to attend the hearing if this imposes no unreasonable inconvenience.



In summary proceedings, the Court is compelled not to enter a conviction against a child unless it imposes a sentence of imprisonment or there are special circumstances which indicate that a conviction should be recorded.

Children under 16 years cannot be sentenced to imprisonment and children of 16 years cannot be sentenced for more than two years, in aggregate. Minimum penalties imposed by statute do not apply to children; for those under 14 years the maximum fine is \$20, and for those over 14 years, \$50. The Court may impose a supervision order to bring the child under the guidance of a child welfare officer or, if over 15 years, of a probation officer. Alternatively, the Court may declare the child a ward of the State, placing him under the control of the Director of Social Welfare until his eighteenth birthday, unless released sooner; it may also direct that a ward be committed to an institution. In cases where further investigation appears necessary the Court may issue a remand for an observation order before it makes a final decision. Remands for observation orders are for short periods and usually provide for intensive supervision. (In the case of delinquency the maximum period for such an order is three months.)

Neglected or uncontrolled children are in the Court's jurisdiction; it may make a supervision order; an interim order (similar to a remand for observation order, the effect being to defer the transfer of guardianship until it is apparent that there is no suitable alternative); or impose wardship or bind the parents over to provide proper care and control, and comply with other directions. If parents have contributed to a child's offence, by failing to control the child, they may also be charged, convicted, fined, ordered to pay for damage and obliged to enter into a recognizance for the good behaviour of the child for up to 12 months.

Unlike a Children's Court, the Supreme Court is in no way inhibited in imposing a penalty on a child. In addition to its ordinary sentencing powers, it may make supervision or wardship orders, and commit a child to an institution. If a child is sentenced to imprisonment, the responsible Minister may direct that the sentence be served in a place other than a gaol.

Statistics of offences for which children were reported appear in Chapter 15 under 'Department of Social Welfare'.

### *Bankruptcy*

On 4 March 1968, the Federal *Bankruptcy Act* 1966 (repealing the Act of 1924-1965) came into operation. The Federal Court of Bankruptcy generally exercises jurisdiction in N.S.W., A.C.T. and Victoria while the Supreme Court of Tasmania exercises federal jurisdiction in Tasmania.

Under the 1968 legislation, a person unable to meet his debts may voluntarily present to the Registrar in Bankruptcy a petition against himself and become a bankrupt under section 55; if the Registrar does not accept the petition and refers it to the Court, he may be directed to accept it. A creditor may apply to the Court for compulsory sequestration of a debtor's estate where the debt is not less than \$500. Where a debtor becomes bankrupt:

- (i) his property, not being after-acquired property, vests immediately in The Official Receiver in Bankruptcy; and
- (ii) his after-acquired property vests in The Official Receiver in Bankruptcy, or if a private trustee has subsequently been appointed, then in that trustee.

A debtor may avoid sequestration, in some circumstances, by authorising a registered trustee to call a meeting of his creditors and take over control of his property; or by authorising a solicitor to call a meeting of his creditors (Part X).

The debtor's property is controlled by the trustee until the creditors resolve otherwise, or the Court orders otherwise, or a deed of assignment or arrangement is executed, or a composition is accepted, or the debtor dies or becomes bankrupt.

A person becoming bankrupt under the Act may be automatically discharged from bankruptcy after the expiration of five years (section 149) unless discharged earlier by the Court. Undischarged bankrupts at 4 March 1968 were discharged three years later (4 March 1971) or five years from the date of the sequestration order, whichever was the later (unless discharged earlier by the Court). The Registrar, trustee or a creditor may lodge an objection to this type of discharge, and if it is not withdrawn the debtor must apply to the Court under section 150 if he desires to be discharged.

The following table shows the number of bankruptcies and private arrangements together with the assets and liabilities of debtors:

Tasmania: Bankruptcy Proceedings

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Bankruptcies and orders for administration of deceased debtors' estates—					
Number .. .. .	123	156	151	69	75
Liabilities .. .. . \$'000	839	1 090	470	660	636
Assets .. .. . \$'000	227	438	189	154	280
Deeds of assignment, arrangement, compositions and schemes—					
Number .. .. .	17	12	12	12	6
Liabilities .. .. . \$'000	198	47	416	311	129
Assets .. .. . \$'000	247	42	574	315	176
Total—					
Number .. .. .	140	168	163	81	81
Liabilities .. .. . \$'000	1 037	1 137	886	971	765
Assets .. .. . \$'000	474	480	763	469	456

### The Licensing Court

The State Licensing Court was set up under the *Licensing Act* 1932 and consists of a magistrate (who is the chairman) and two Government nominees. The Court is empowered to hear and determine: (i) applications for the granting of hotel and other liquor licences; (ii) applications for the registration or renewal of registration of clubs; and (iii) objections to (i) and (ii).

Since 1952 the *Licensing Act* has empowered the Court to determine the minimum standards of service, management, accommodation, structure and equipment which should apply to hotels and licensed restaurants, and also the qualifications required by persons holding or applying for licences.

The following table shows the total hotel bedroom accommodation available to the public during recent years:

Standard of Accommodation: Hotels

At 30 June	Total number of bedrooms	Number of bedrooms furnished with—	
		Private bath, shower, toilet and hand-basin	Handbasin with hot and cold running water
1969 .. ..	3 525	1 073	2 020
1970 .. ..	3 564	1 117	2 020
1971 .. ..	3 566	1 228	1 950
1972 .. ..	3 640	1 333	1 924
1973 .. ..	3 928	1 751	1 797
1974 .. ..	4 089	1 899	1 812

The Court's inspectors and the public health inspector make a thorough examination of each hotel prior to the annual sittings at which renewals of licences are considered. Reports are furnished for the information of the Court and the Tourist Department. An officer of the Fire Brigades Commission also carries out an annual inspection to ensure that each hotel complies with the requirements of the Commission.

The following table shows the licences and club registrations operative:

Licensed Hotels, Restaurants, Clubs and Wholesale Licences

At 30 June	Hotels (a)	Restaurants (b)	Registered clubs	Wholesale licences	Total
1969 .. .. .	263	11	145	29	448
1970 .. .. .	264	16	146	30	456
1971 .. .. .	269	23	153	29	474
1972 .. .. .	269	22	156	29	476
1973 .. .. .	269	27	162	31	489
1974 .. .. .	274	42	164	45	525
1975 .. .. .	273	52	167	45	537

(a) Includes a small number of premises not providing accommodation and known as 'taverns'.

(b) Includes motels which have a licence for dining rooms only.

The Ogilvie ministry introduced 10 a.m. to 10 p.m. bar trading hours before World War II and, in the post-war period, Tasmania's 10 p.m. closing contrasted with 6 p.m. closing in S.A., Victoria and N.S.W. However, these States progressively liberalised their drinking laws, and by 1967 all had adopted late closing.

In 1967 the Tasmanian *Licensing Act* 1932 was amended to allow 11.30 p.m. closing on Friday and Saturday nights for those hotels which desired to observe these hours and which obtained the necessary permits; 10 p.m. closing was made the rule for other nights (excluding Sunday) with provision nevertheless to obtain extension permits for special functions. The permitted age for drinking on licensed premises was lowered from 20 to 18 years. Restaurants complying with defined conditions can obtain licences to sell liquor and licensed restaurants can open till 11.30 p.m. six nights a week. Dining accommodation, kitchen specifications, etc., for licensed restaurants are strictly supervised.

The Wrest Point Casino Licence (granted by the Treasurer) permits certain categories of gaming until 3 a.m. seven days per week. As long as entertainment and dining facilities are provided the sale of liquor is allowed on the same basis under an *entertainment permit*. The entertainment permits are, in fact, available to any hotel or licensed restaurant which is able to provide the required entertainment. Other permits are: (i) *occasional permits*—for clubs or societies which are not registered; and (ii) *motel permits* which allow the extension of liquor services to lodgers' rooms if the motel has a restaurant licence.

On 4 November 1975 two bills were introduced into the House of Assembly to liberalise liquor licensing laws. The bills were subsequently passed and all hotels and licensed clubs were allowed to set their own trading hours provided they traded for at least eight hours a day on five days of the week with Sunday trade limited to between noon and 8 p.m. The legislation, which adopted most of the Savas Committee of Inquiry recommendations on liquor licensing, came into operation at the same time as revised drink-driving laws. Sunday trading under the new law commenced on 21 December 1975.

## PRISONS

*General*

The establishment, regulation and conduct of prisons and the custody of prisoners in Tasmania are provided for under the *Prison Act* 1868 and 1908. Provision is made for the appointment, by the Governor, of a Controller of Prisons who is responsible for the supervision of gaols, including the initiation and implementation of correctional programs for prisoners and staff training schemes.

Two Justices of the Peace are appointed for each institution each year to act as Visiting Justices. They visit the prison at least once per month to examine the treatment, behaviour and condition of prisoners, and the condition of the prison. They hear complaints with regard to offences committed in the gaol, and have power to punish offenders either by solitary confinement or by extending the term of imprisonment.

The main prison in Tasmania is at Risdon near Hobart, which has, as an outstation, the Farm Gaol at Hayes in the Derwent Valley. The prison at Launceston is limited in function, receiving only persons on remand or sentenced for periods not exceeding seven days. The Launceston Prison also functions as a holding centre for prisoners from the northern districts of the State prior to their transfer to Risdon.

The following table shows Prisons Department expenditure from Consolidated Revenue:

**Prisons Department: Expenditure From Consolidated Revenue**  
(*\$'000*)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Total expenditure .. ..	986	1 096	1 216	1 481	2 089
Net receipts (a) .. ..	25	33	75	84	70
Net expenditure .. ..	961	1 063	1 141	1 397	2 019

(a) From prison industry and gaol farm activities described later in the text.

*Prisoners Received and Discharged*

In the following table giving details of prisoners received into and discharged from Tasmanian prisons, no distinction is made between those on remand and those convicted and sentenced to imprisonment. (Figures for H.M. Prison, Risdon, include those held in custody at the Hayes Farm Gaol.)

**Prisoners Received and Discharged (a), 1973-74**

Particulars	Risdon Gaol		Launceston Gaol		Total	
	Males	Females	Males	Females	Males	Females
In custody at 30/6/1973 ..	366	6	..	..	366	6
1973-74—						
Received .. ..	684	44	449	23	1 133	67
Transferred (b) .. ..	+281	+17	-281	-17	..	..
Discharged .. ..	994	58	165	6	1 159	64
In custody at 30/6/1974 ..	337	9	3	..	340	9

(a) Includes persons on remand.

(b) Transfers from Launceston to Risdon.

*Prisoners' Offences*

The following table shows the offences for which convicted prisoners were received:

**Offences for Which Convicted Prisoners Were Admitted to Risdon Gaol During 1973-74**

Offence for which convicted	Males	Females	Persons	
			Number	Proportion of total
				per cent
Stealing .. .. .	540	12	552	26.59
Burglary .. .. .	304	1	305	14.69
False pretences .. .. .	185	15	200	9.63
Stealing of motor vehicle .. .. .	103	..	103	4.96
Driving whilst licence suspended .. .. .	94	..	94	4.53
Assault .. .. .	63	..	63	3.03
Failure to pay fines and costs .. .. .	53	1	54	2.60
Break a building other than a dwelling house .. .. .	48	..	48	2.31
Assault police .. .. .	46	..	46	2.22
Housebreaking .. .. .	36	..	36	1.73
Forgery .. .. .	32	..	32	1.54
Drunk and incapable .. .. .	22	8	30	1.44
Uttering .. .. .	29	..	29	1.40
Injury to property .. .. .	24	..	24	1.16
Drunk and disorderly .. .. .	20	3	23	1.11
Insufficient means .. .. .	21	2	23	1.11
Exceeding .08% .. .. .	22	..	22	1.06
Dangerous driving .. .. .	21	1	22	1.06
Unlawfully set fire to property .. .. .	21	..	21	1.01
Assault a female .. .. .	21	..	21	1.01
Indecent assault .. .. .	18	..	18	0.87
Other .. .. .	303	7	310	14.93
Total (a) .. .. .	2 026	50	2 076	100.00

(a) The number of offences exceeds the number of prisoners received since some prisoners were convicted of multiple offences.

The next table classifies convicted prisoners according to the number of their previous convictions:

**Convicted Prisoners Admitted to Risdon Gaol During 1973-74, According to Number of Previous Convictions (a)**

Prisoners	Number of previous convictions				Total
	Nil	One	Two	Three or more	
Number received .. ..	93	29	26	505	653
Percentage of total .. ..	14.2	4.4	4.0	77.3	100.0

(a) Previous convictions may not necessarily have involved imprisonment.

*Age of Prisoners*

Young offenders account for a high proportion of receivals. The proportion of convicted male prisoners under 25 years was: 61 per cent in 1969-70; 62 per cent in 1970-71; 60 per cent in 1971-72; 61 per cent in 1972-73; and 61 per cent again in 1973-74. The following table shows the age of convicted prisoners admitted to gaol.

## Ages of Convicted Prisoners Admitted to Risdon Gaol, 1973-74

Sex	Age group (in years)								Total
	Under 18	18 and 19	20-24	25-29	30-39	40-49	50-59	60 and over	
Males ..	86	130	167	89	76	42	26	6	622
Females ..	..	3	10	1	3	2	11	1	31
Total ..	86	133	177	90	79	44	37	7	653

*Parole and Remission of Sentences*

Good conduct remissions of up to one-third of sentence for prisoners sentenced to over three months may be granted by the Governor of the State on the Controller's recommendation. Prisoners may also be paroled on licence for the balance of their sentences.

The Indeterminate Sentences Board is appointed by the Governor of the State to review cases of prisoners serving indeterminate sentences (i.e. those where no fixed sentence is specified and the duration is dependent on the prisoner's conduct, etc.). Such prisoners may be released on a two-year licence and are subject to any conditions the Board may recommend, e.g. the supervision of a probation officer.

The following summary table shows the number of prisoners under the supervision of the Indeterminate Sentences Board:

## Prisoners Serving Indeterminate Sentences at Risdon Gaol

Prisoners	1969-70	1970-71	1971-72	1972-73	1973-74
Received during year ..	16	12	17	12	7
Discharged during year ..	7	20	14	12	13
In custody at 30 June ..	15	7	10	10	4

*Capital Punishment*

The death sentence has not been carried out in Tasmania since 1946, but judges pronounced the sentence from time to time until 1968; in October 1968, the Attorney-General introduced a bill to abolish capital punishment and this was passed by the Parliament in December of that year.

*Risdon Gaol*

The Risdon Gaol, with provision for 333 prisoners, was opened in November 1960. Male prisoners were then transferred from the old Hobart Gaol and in June 1963, the Female Prison, the first entirely separate gaol for women to be built in the State, was opened on the Risdon site. The following table shows the daily average and highest number of prisoners at Risdon Gaol over a five-year period:

## Number of Prisoners, Risdon Gaol (a)

Prisoners	1969-70	1970-71	1971-72	1972-73	1973-74
Maximum number .. ..	405	414	406	398	388
Daily average .. .. .	359	386	373	371	344

(a) Includes Hayes Farm Gaol.

The Risdon Gaol incorporates workshops which serve as a basis for vocational and trade training in such subjects as woodworking, tailoring, sheet metal working, bootmaking, laundry and breadmaking. Educational services include instruction during working hours for illiterate and semi-literate prisoners; tuition, during evenings, in general academic subjects to Secondary Schools Certificate standard; correspondence courses in University, School Certificate, Higher School Certificate and various technical and commercial subjects; tuition in English for migrants; and training in art and allied subjects. A classification committee interviews all prisoners on admission and decides on each individual's training program.

Groups meet regularly for wood carving, art, pottery, toy making, chess and dramatics. Feature and documentary films are screened monthly, and concert parties visit the prison regularly. The Prison Debating Society has been re-organised and, apart from weekly meetings, debates regularly against outside teams. The Education Section publishes the prison magazine 'Verbal' each month. A comprehensive sports program is conducted, including athletics, gymnastics, and competitions in cricket, volley ball and basketball.

The State Library of Tasmania helps with the prison library and library officers advise the prisoners on book selection each weekend; 5 000 volumes are immediately available; prisoners may request other books. Over 650 books are borrowed from the library weekly.

Prison industries produce articles for government departments and institutions. The following table shows the receipts for prison industries over a five-year period. A laundry installed in 1963 contributes to receipts from sales and services but the amounts are not a true indication of value to the Government, as laundry is processed at a nominal figure for hospitals and other government institutions.

**Gaol Suspense Account (Prison Industries)**  
(£)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Receipts (a) .. .. .	101 895	134 000	143 783	145 045	184 672
Paid to Consolidated Revenue	9 309	28 415	50 209	40 850	35 329

(a) Maintenance, material and capital charges are met from receipts, the balance being paid to Consolidated Revenue.

### *Hayes Farm Gaol*

The Farm Gaol at Hayes ('Kilderry') is an outstation of the Risdon Prison. It is used to prepare men for a normal way of life through operation of the honour system. Up to 90 prisoners who are regarded as being worthy of trust, regardless of their age, length of sentence or type of offence, are held there.

The following table shows the receipts from sale of farm produce and the amounts paid to Consolidated Revenue over a five-year period:

**Gaol Farm Suspense Account**  
(£)

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Receipts (a) .. .. .	84 016	109 318	131 440	170 302	174 506
Paid to Consolidated Revenue	15 825	4 734	24 612	42 671	34 504

(a) Maintenance, material and capital charges are met from receipts, the balance being paid to Consolidated Revenue.



The 567-hectare property has been developed into a model farm with a great diversity of farming activities. These include approximately 26 hectares for vegetables; a registered stud of Friesian cattle and Herefords; about 2 000 sheep for wool and fat lambs; a registered herd of Berkshire pigs; poultry; cropping of wheat, oats, lucerne and hay; breeding of children's ponies; hot house cultivation; and an experimental shrub and tree nursery, etc. An additional 125 hectares of land was purchased near New Norfolk in May 1969. This property, about two kilometres north of the Hayes prison farm functions as an annexe to the Hayes property. During 1970-71 a sawmill was established on the property. The Royal Derwent Hospital farm of 297 hectares, including the dairy herd and poultry section, was transferred to the Prisons Department during 1971. All prison requirements of milk and butter are met and the surplus is supplied to the Royal Derwent Hospital. Building construction activities and machinery maintenance workshops also provide employment, but this range of prison industries is more limited than at Risdon. Similar educational and recreational facilities to those at Risdon are provided:

#### *The Probation and Parole Service*

The service is a division of the Attorney-General's Department and comprises a total of 34 officers, including the Principal Probation Officer, the Assistant Principal Probation Officer, and three Senior District Officers. The Service's Head Office is located in Hobart and there are regional offices at Launceston and Burnie, with district offices at New Norfolk, Bellerive, Devonport and Queenstown.

The main function of the Service is to provide supervision of persons released from the courts on probation and those released from prison on probation or parole. Counselling in respect of personal and family matters is offered, as is practical assistance aimed at providing suitable employment and accommodation. Social re-orientation discussion groups for those under supervision are held regularly, and remedial teaching classes are also a feature of the Service. The Service also administers the community Work Order Scheme which is designed to provide a method of treatment of offenders as an alternative to imprisonment.

## THE TASMANIA POLICE FORCE

### *History*

The development of an organised Police Force in Tasmania commenced when Governor Collins arrived, bringing with him a body of civilians known as the 'Night Watch' which had been formed at the settlement on Port Phillip Bay. On 5 July 1804, Collins instructed that at least two of the Night Watch were to be on duty at night because of the number of robberies being committed. Collins disbanded the Watch two years later, recognising that it was necessary to have police able to carry out their duty in a proper manner. At Port Dalrymple, now Launceston, which was then separately administered, Lieutenant-Governor Paterson on 19 November 1804, appointed Thomas Massey as Chief Constable, with three subordinate constables.

Because allowances, which consisted only of rations, clothing and spirits, were not sufficient for the proper support of the first policemen, they were forced to find other means of supplementing their incomes. This led to the force being mediocre at best. Free settlers were not inclined to join the force because of the poor remuneration; recruits were mostly convicts on 'ticket of leave'.

In 1828, Governor Arthur, who had commented that 'there was no Branch of the Public Service more deficient than the Police', divided the State into nine districts, each with a police magistrate who was responsible to a chief police

magistrate in Hobart. Writing about the 1820s in Hobart Town, J. E. Calder in an 1879 newspaper article said ' . . . drunkenness was 10 times more prevalent than now, and street robbery, burglary and even murder were not rare . . . '

Arthur's organisation remained until soon after the State graduated to responsible government in 1856. In 1857, the *Hobart Town and Launceston Police Act* made the two towns responsible for their police forces. Some other municipalities took control of their own police following the passing of the *Rural Municipalities Act* 1858, and, where there was no municipal police force, the government provided police from a territorial force.

The nucleus of the present force was not created until 1898 when the first commissioner was appointed, all police forces were amalgamated and municipal control terminated.

### *The Present Force*

*Organisation:* The Police Department is headed by the Commissioner who is responsible to the Minister for Police. The highest uniform rank is Chief Superintendent; this position controls and co-ordinates all police administrative functions. There are four districts with headquarters in Hobart, Glenorchy, Launceston and Burnie—each has a superintendent in charge. The Police Force has four branches (Uniform, Criminal Investigation, Training and Traffic) each under the control of a superintendent.

*Recruitment and Training:* The Police Department operates two recruit training schemes. Adult males from 19 years, and females from 22 years receive 19 to 20 weeks intensive training. Since 1971 youths from 16 years have been accepted as police cadets and undertake a specially designed two-year (minimum) course. Preference is given to matriculants, with special consideration to those holding Higher School Certificates, or with outstanding Schools Certificate results.

*Police Academy at Rokeby:* In 1971 work commenced on the Department's Rokeby Academy which was completed in December 1975. The academy will accommodate 120 cadets and provide full training and in-service course facilities for adults. The project incorporates teaching and residential blocks, shooting ranges, parade facilities, armoury, library, theatre, cafeteria and recreational facilities. There are four houses adjacent to the site to house senior staff.

Officers must qualify by examination before promotion to each rank up to inspector. The Department has sponsored some officers' university courses and men are also sent to police colleges in Sydney and Melbourne.

*Criminal Investigation:* The Criminal Investigation Branch comprises approximately 150 police officers. Within the C.I.B. are the following sub-sections: (i) *Communications* which operates interstate and intrastate radio and telex systems. Radio is installed in all police vehicles, boats and most motor cycles. Personal 'walky-talky' units have been issued to beat police in Hobart and Launceston since 1971. (ii) *Fingerprinting* has on file approximately 36 500 sets (i.e. prints of all fingers and thumb of each hand); the 'singles crimes scene' contains 45 000 individual prints. During 1974-75 11 000 sets were supplied by mainland and overseas sources. All prints are checked with the Central Fingerprint Bureau in Sydney and classified. (iii) *Information Bureau* maintains modern equipment for ballistic examination, detection of forged documents and a complete photographic section. It also compiles and provides data on criminals and missing persons.

**Traffic Duties:** The Department enforces the traffic regulations for the Transport Commission. Traffic control occupies a large part of police time and involves about 320 cars and 54 motor cycles. Increased use is made of the breathalyser.

**Search and Rescue:** A well equipped volunteer search and rescue squad is based at Hobart. Training for squad members includes techniques of resuscitation, rescue in bush, mountains, cliffs, and at sea, or underwater. The squad receives active support from walking, climbing, and sailing clubs. The Department maintains on permanent stand-by a powerful 15.8 metre motor launch *Vigilant* suitable for shallow or deep water work, with a sea range of 1 300 kilometres. Other smaller police craft are stationed at points around the State coastline.

**Other Duties:** Inspection of licensed premises, supervision of gaming, conducting special interviews and inquiries for government departments, and the service of notices and summonses are important police functions.

**Uniform Branch:** This branch maintains beat patrols on foot and in conjunction with vehicle patrols. Beat police are equipped with 'walky-talky' radios and are in constant touch with their bases.

**Task Force:** This was created in 1974 and operates only at night. It is highly mobile and has proven effective.

**Licensing and Gaming:** The section is responsible for inspection of licensed premises, supervision of gaming and enforcement of regulations.

**Prosecution Section:** Is responsible for preparation of briefs and promotes prosecutions on behalf of all police branches.

### *Strength of Force*

The following table shows the number of police and expenditure:

**Police Force: Number and Cost**

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Police officers (a) .. .. . no.	749	796	879	892	940
Persons per police officer (a) .. . no.	518	490	446	444	426
Cost (total expenditure of Police Department) .. .. . \$'000	4 055	4 869	6 220	7 954	9 118
Cost per head of mean population \$	10.49	12.51	15.85	20.14	22.77

(a) At 30 June.

## **EMERGENCY SERVICES**

### **State Emergency Service**

#### *Introduction*

Following a series of discussions at federal and state level the Tasmanian Government, in 1962, decided, in common with other states, to establish a Civil Defence and Emergency Services Organisation for Tasmania. The Government considered that in addition to its intended role in time of war the organisation should be organised and trained to assist in combating natural emergency situations. A Director of Civil Defence and Emergency Services was appointed to plan the new organisation and exercise overall control of volunteer units. In April 1975 the title was changed to State Emergency Service in common with other states.

By agreement between the Australian Government and states the responsibility for developing a civil defence organisation was undertaken by the three tiers of government—federal, state and local. At the federal level the Australian Government established the Commonwealth Directorate of Civil Defence to implement federal policies, to conduct the Australian Civil Defence School, to provide training and co-ordinate development. In 1974 the Commonwealth Directorate of Civil Defence was replaced by the Natural Disasters Organisation; the new body took over the functions of the Directorate of Civil Defence. The Natural Disasters Organisation is headed by a director-general and co-ordinates natural disaster and civil defence activities through state directors.

### *State Organisation*

Ministerial responsibility for Civil Defence and Emergency Services in Tasmania is now vested in the Minister for Police and Emergency Services. The Director of State Emergency Services is responsible to him for implementing Government policies and the administration and control of the organisation.

Local government authorities have the responsibility of sponsoring a volunteer unit for their municipality and appointing a local controller to raise, train and control it. Participation by councils is voluntary and as at 1 July 1975, 44 municipalities had joined the organisation.

### *Functions*

The State Emergency Service has the responsibility for ensuring that the community is adequately prepared to meet any disaster situation that may arise. To this end the Service has the roles of co-ordinating emergency planning, provision of and co-ordination of emergency training, and co-ordinating all supporting and ancillary emergency organisations in support of police and other authorities in time of emergency or disaster. The service provides assistance and advice to local government and government departments, assists emergency organisations with the formulation of emergency plans, and undertakes the co-ordination of all plans at various levels to ensure mutual compatibility. The mounting of major inter-organisational exercises to test plans and preparedness is also the responsibility of the Service.

The Service's training wing is responsible for general oversight of all training within voluntary municipal Emergency Service Units. It provides instruction to sections of the community on matters relating to emergency planning and operations in hospitals, schools, and high-rise buildings. Lectures on all aspects of community disaster preparedness are given, on request, to interested organisations and groups.

### *Administrative Structure*

State Emergency Service administration in Tasmania is organised on a three-level basis; municipal, regional, and State. The State is divided into three regions, centred on Hobart, Launceston and Burnie. Each region is administered by a full-time regional officer assisted by a staff officer, and operations within regions are co-ordinated from regional headquarters within the relevant town.

State headquarters (Hobart) is also responsible for maintaining and operating the State Disaster Headquarters. The centre is put into action in event of any major emergency.

### *Recruitment and Training*

By July 1975, some 2 000 persons had volunteered for service at the municipal and regional level. On enlistment all volunteers are insured against death or injury while engaged in training or participating in emergency operations.

Training is undertaken at State and Regional Headquarters and at the municipal level, while advanced training is provided at the National Emergency Services College at Mount Macedon, Victoria.

### *Equipment and Finance*

Protective clothing and operational equipment for the units of the various services are provided annually by the Australian Government through the Natural Disaster Organisation. All other funding is by the State Government—appropriation for 1974-75 was \$98 600.

### **Fire Prevention and Fire Fighting**

#### *Fire Brigades Commission of Tasmania*

The Commission, established under the *Fire Brigades Act 1945* (as amended) is composed of two representatives of the Minister (the Chief Secretary), three representatives of insurance companies, one representative of city and municipal councils, one representative appointed by the Rural Fires Board, and one employees' representative. All urban brigades are under the control of a Chief Officer. The system of financing the fire brigades is shown below:

**Fire Brigades: Principal Sources of Revenue, 1974-75**  
( '\$000 )

Contributions received by Fire Brigades Commission	Receipts	Distribution made by Fire Brigades Commission	Payments
From—		To—	
State Government .. .. .	767	Fire Brigade boards .. .. .	3 402
City and municipal councils ..	760		
Insurance companies .. .. .	1 875		
Total .. .. .	3 402	Total .. .. .	3 402

The number of contributing local government authorities in 1973-74 was 32, although the number of fire brigade boards was only 23 (some boards take responsibility for areas lying in more than one municipality, e.g. the Hobart Board with sub-stations in Glenorchy, Clarence, Kingborough and Sorell). The present contribution formula requires 55 per cent from the insurance companies, and 22½ per cent each from the Government and local government authorities; the Commission prepares an annual estimate of expenditure so that the level of contributions may be fixed in advance. The loan debt of all fire brigade boards at 30 June 1974 was \$896 000.

At 30 June 1974, the 23 fire brigade boards maintained 40 stations (including sub-stations) and employed 255 permanent firemen (Hobart 137, Launceston 86, Burnie 16, Devonport 16); other firemen, numbering 425, were paid on a part-time basis. In addition, one Hobart sub-station, Fern Tree, situated in forested mountain country, had a volunteer strength of 40. Including the Fern Tree volunteers, the total firemen (officers and men) in the brigades numbered 720.

#### *Rural Fires Board*

Following the fire disaster of February 1967, the Rural Fires Board was reorganised under the *Rural Fires Act 1967* and became fully operative in July 1968.

The Rural Fires Board operates under a chairman appointed by the Governor and consists of 16 members representing: Forestry Commission (two members); Police; Fire Brigades Commission; pulp and paper making industry management; sawmilling industry management; Hydro-Electric Commission; Fire and Accident Underwriters' Association; Tasmanian Farmers' Federation; Tasmanian Farmers', Stockowners' and Orchardists' Association; Australian Workers' Union; Timber Workers' Union; and Rural Fire Brigades.

Under the Act, the municipal councils, through fire permit officers approved by the Board, are made responsible for the control and issue of permits for fire used for clearing vegetation during restricted periods. Fire use is controlled during only two periods, that is, during *fire danger periods*, when permits are required, and on days of *acute fire danger* when no fires are permitted. These periods are introduced and removed as the seasonal conditions dictate in various parts of the State. The Act requires each municipal council to form a municipal fire committee for the purpose of promoting the formation of rural fire brigades and advising the Board and the Council on matters of fire restriction, hazard reduction, the provision of funds for purchase of equipment to be used by rural fire brigades and any other fire control matters. Areas with particular fire problems and sparse population may be declared as *special fire areas* and be the subject of separate schemes sponsored entirely from Government finance.

The Board's paid staff is headed by the State Fire Control Officer and includes six Regional Fire Control Officers. There were 305 rural fire brigades at 30 June 1975. These brigades are composed entirely of registered volunteers, involving 7 850 people. The Board's budget in 1974-75 was \$936 000 comprising: \$496 000 for Board administration expenditure, \$207 000 for the development of Special Fire Areas (including capital items); \$97 000 for the development of Hobart Special Fire Area (includes capital items); \$40 000 for subsidy grants to municipal councils; and \$2 000 for workers' compensation cover for brigade members. Half the administrative expenditure of the Board is met by insurance companies insuring rural properties, and half by the Government. Special Fire Area, grants to councils and workers' compensation expenditure is borne by the Government. Hobart Special Fire Area expenditure is borne between the Government and the Hobart, Glenorchy and Kingborough Councils.

### Forestry Commission

The Commission is responsible for the protection of the State forests (1.3m hectares) and of other forested Crown land. Close liaison is maintained with the Rural Fires Board as two members of the 16-man Board are representatives from the Forestry Commission. The following table gives details relating to fire damage for the last 10 years:

Comparisons of Seasonal Fire Damage

Year	Area burnt (a)	Fires	Suppression cost	Year	Area burnt (a)	Fires	Suppression cost
	hectares	no.	\$		hectares	no.	\$
1964-65 ..	4 781	146	33 930	1969-70 ..	6 221	118	21 963
1965-66 ..	52 264	317	54 968	1970-71 ..	8 663	114	22 493
1966-67 ..	172 485	264	108 018	1971-72 ..	1 826	95	13 841
1967-68 ..	38 730	230	61 032	1972-73 ..	140 900	305	262 531
1968-69 ..	4 535	87	18 722	1973-74 ..	6 054	62	23 688

(a) Includes private property inside the perimeter of fires on which suppressive action was taken.

During 1973-74, 2 146 hectares of State forest and Crown land were burnt including 1 596 hectares of scrub wasteland and 550 hectares of forested land.

## Chapter 17

### LABOUR, PRICES AND WAGES

#### EMPLOYMENT

##### Historical

Tasmanian records for the first 90 years give no dissection of the population such that the total number of wage and salary earners can be accurately ascertained. The first census to provide the necessary analysis was that of 1891, the categories used on that occasion and in subsequent censuses being broadly comparable. The composition of the labour force is shown in the following table for each census from 1901 to 1961:

Elements of Labour Force: Censuses of 1901-1961

Year and sex	Employer	Self-employed	Employee	Helper not receiving wage or salary	'Not at work' (a)	Total in labour force	Total population
1901—Males .. ..	6 213	9 100	36 063	4 098	1 810	57 284	89 624
Females .. ..	462	2 434	10 229	2 071	356	15 552	82 851
Persons .. ..	6 675	11 534	46 292	6 169	2 166	72 836	172 475
1911—Males .. ..	8 477	6 742	40 555	3 916	1 492	61 182	97 591
Females .. ..	642	1 249	10 715	411	326	13 343	93 620
Persons .. ..	9 119	7 991	51 270	4 327	1 818	74 525	191 211
1921—Males .. ..	4 445	13 309	42 763	1 875	3 606	65 998	107 743
Females .. ..	347	1 593	11 484	67	510	14 001	106 037
Persons .. ..	4 792	14 902	54 247	1 942	4 116	79 999	213 780
1933—Males .. ..	7 277	11 887	38 084	1 752	10 226	69 226	115 097
Females .. ..	798	1 423	13 082	116	1 442	16 861	112 502
Persons .. ..	8 075	13 310	51 166	1 868	11 668	86 087	227 599
1947—Males .. ..	6 718	12 522	58 097	997	1 867	80 201	129 244
Females .. ..	659	1 198	17 693	86	481	20 117	127 834
Persons .. ..	7 377	13 720	75 790	1 083	2 348	100 318	257 078
1954—Males .. ..	6 886	12 616	72 481	778	1 215	93 976	157 129
Females .. ..	788	1 329	21 590	246	279	24 232	151 623
Persons .. ..	7 674	13 945	94 071	1 024	1 494	118 208	308 752
1961—Males .. ..	7 108	11 619	78 863	505	3 194	101 289	177 628
Females .. ..	1 113	1 572	25 853	194	896	29 628	172 712
Persons .. ..	8 221	13 191	104 716	699	4 090	130 917	350 340

(a) Includes those who stated they were usually engaged in work, but were not actively seeking a job at the time of the census by reason of sickness, accident, etc., or because they were on strike, changing jobs, temporarily laid off, etc. It also includes persons able and willing to work, but unable to secure employment, as well as casual and seasonal workers not actively engaged in a job at the time of a census.



### Labour Force and Employment

It is essential to distinguish between 'labour force' and 'employees' since *employment* statistics in this chapter relate mainly to wage and salary earners, who are, however, *only one component of the labour force* which also comprises employers, self-employed persons, unpaid helpers and unemployed persons. The category 'not at work' shown in the preceding table was first established in the 1947 Census and the comparison with earlier years is only approximate. For further details, see subsequent section headed 'Unemployment'. Data from the 1966 and 1971 Censuses (shown in the next section) could not be included in the previous table because of a changed method of collecting information.

#### Labour Force

From the 1966 Census, a new set of questions (based on activity in the week before the Census) was asked to establish who should be included in the labour force. The composition was as follows:

Elements of Labour Force: Censuses, 1966 and 1971 (a)

Year and sex	Employer	Self-employed	Employee	Unpaid helper	Unemployed	Total in labour force	Total population
1966—Males .. ..	8 245	9 162	87 572	432	1 146	106 557	187 390
Females .. ..	1 759	1 644	35 451	940	971	40 765	184 045
Persons .. ..	10 004	10 806	123 023	1 372	2 117	147 322	371 435
1971—Males .. ..	6 841	8 442	90 627	277	1 786	107 973	196 442
Females .. ..	1 727	1 892	39 649	760	1 261	45 289	193 971
Persons .. ..	8 568	10 334	130 276	1 037	3 047	153 262	390 413

(a) See chapter 6 for a dissection of employed population by industry group.

The new approach to labour force classification was as follows: in pre-1966 censuses people had been invited to classify themselves (e.g. as unemployed, employee, etc.) but in 1966 and 1971, people were invited to describe their *activity* in a specific week and the Statistician, using pre-determined definitions, classified them on the basis of their answers.

Briefly, the new questions asked whether the person: (i) had a job or business of any kind last week (even if temporarily absent from it); (ii) did any work at all last week for payment or profit (unpaid helpers who worked were to answer *yes*); (iii) was temporarily laid off by his employer without pay for the whole of last week; and (iv) looked for work last week (ways of 'looking for work' were specified on the Census form).

The 1966 and 1971 labour force included all persons answering *yes* to any one of these four questions. The effect of the new definition was to include additional persons in the labour force. This applied particularly to those working part-time (sometimes for only a few hours a week), some of whom in 1961 may not have considered themselves as '... engaged in an industry, business, profession, trade or service'. The main difference in classification between the 1901-1961 table and the 1966-1971 table is the substitution of the category 'unemployed' for the former category 'not at work'.

The total of persons recorded as unemployed in 1966 and 1971 was compiled from persons answering *no* to questions (i), (ii) and (iii) and *yes* to question (iv).

## Intercensal Labour Force Estimates

## Introduction

In previous issues of the Year Book, details were given of the labour force recorded at successive censuses (see preceding section) but nothing was shown for intercensal periods. This section is devoted to giving recent estimates of the Tasmanian labour force and describing how they are made.

## Labour Force Survey

Population censuses tend to be expensive undertakings and are therefore held only at five-yearly intervals. However the demand for regular *census-type* information exists right through the intercensal periods; the most sought data are those describing the labour force.

To meet this demand, the Bureau designed in 1960 a special sample of private households and non-private dwellings under the title 'population survey'; and it trained teams of interviewers to contact the selected sample units by personal visit with the aim of filling in questionnaires on the spot.

The population survey can be used to collect an extremely wide range of data but the main routine application has been the quarterly labour force enquiry, conducted in February, May, August and November of each year. The questionnaire is filled in for persons 15 years and over within each sampled unit and the definitions of employment, unemployment, etc. are basically the same in concept as those used in population censuses.

Naturally the estimates are subject to sampling error. The specialist reader is referred to the Bureau's federal publication *The Labour Force* where tables appear stating the standard error associated with the estimates in specific size ranges.

The following table gives details of elements of the civilian labour force based on estimates derived from recent quarterly population surveys:

Civilian Population 15 Years of Age and Over, by Employment Status (a)

Month	Employed ( <i>b</i> )			Unemployed ( <i>c</i> )		Total labour force ( <i>d</i> )		Not in labour force ('000)	Civilian population aged 15 and over ('000)
	Agri- culture ('000)	Other indus- tries ('000)	Total ('000)	Number ('000)	Per cent of labour force	Number ('000)	Per cent of popula- tion		
MALES									
1973—									
February	13.5	100.0	113.4	2.0	1.7	115.4	82.6	24.3	139.7
May ..	12.6	102.0	114.6	1.6	1.4	116.2	82.9	24.1	140.3
August ..	13.0	100.0	113.0	1.2	1.0	114.2	81.2	26.5	140.7
November	12.4	98.9	111.4	2.3	2.0	113.6	80.3	27.9	141.5
1974—									
February ..	12.3	101.9	114.2	2.8	2.4	116.9	82.2	25.3	142.2
May ..	12.3	101.4	113.7	2.1	1.8	115.7	81.0	27.1	142.8
August ..	12.9	100.5	113.4	2.3	2.0	115.7	80.8	27.4	143.1
November	11.8	100.9	112.6	2.9	2.5	115.5	80.4	28.3	143.8
1975—									
February ..	11.7	101.7	113.4	3.2	2.7	116.6	80.8	27.7	144.3
May <i>p</i> ..	10.6	101.7	112.3	3.4	3.0	115.7	79.8	29.2	144.9

Civilian Population 15 Years of Age and Over, By Employment Status (a)—continued

Month	Employed ( <i>b</i> )			Unemployed ( <i>c</i> )		Total labour force ( <i>d</i> )		Not in labour force ('000)	Civilian population aged 15 and over ('000)
	Agri- culture ('000)	Other indus- tries ('000)	Total ('000)	Number ('000)	Per cent of labour force	Number ('000)	Per cent of popu- lation		
FEMALES									
1973—									
February ..	1.5	47.3	48.8	3.6	6.9	52.4	37.4	87.9	140.3
May ..	1.8	49.7	51.5	2.4	4.4	53.9	38.2	87.1	141.0
August ..	1.9	48.8	50.8	1.6	3.0	52.3	37.0	89.0	141.3
November ..	1.9	50.3	52.2	2.2	4.0	54.4	38.1	88.2	142.6
1974—									
February ..	1.9	48.9	50.8	2.6	4.9	53.5	37.3	89.8	143.3
May ..	1.9	49.4	51.2	2.1	4.0	53.4	37.1	90.5	143.8
August ..	2.5	50.6	53.1	1.5	2.7	54.6	37.7	90.1	144.6
November ..	2.9	51.5	54.4	2.5	4.4	56.9	39.1	88.7	145.6
1975—									
February ..	2.4	50.9	53.3	4.2	7.3	57.5	39.2	89.1	146.6
May <i>p</i> ..	2.8	50.5	53.3	3.4	6.4	56.7	38.4	91.0	147.7
PERSONS									
1973—									
February ..	15.0	147.2	162.2	5.6	3.3	167.8	59.9	112.2	280.0
May ..	14.4	151.7	166.1	4.0	2.4	170.1	60.5	111.2	281.3
August ..	14.9	148.8	163.7	2.8	1.7	166.5	59.0	115.5	282.0
November ..	14.3	149.2	163.5	4.5	2.7	168.0	59.1	116.1	284.1
1974—									
February ..	14.2	150.8	165.0	5.4	3.2	170.4	59.7	115.1	285.5
May ..	14.2	150.7	164.9	4.2	2.5	169.1	59.0	117.6	286.6
August ..	15.4	151.1	166.5	3.8	2.2	170.3	59.2	117.5	287.7
November ..	14.7	152.4	167.0	5.4	3.1	172.4	59.6	117.0	289.4
1975—									
February ..	14.1	152.6	166.7	7.4	4.3	174.1	59.9	116.8	290.9
May <i>p</i> ..	13.4	152.2	165.6	6.8	4.1	172.4	58.9	120.2	292.6

(a) This series is based on a quarterly survey of a sample of the population. The estimates relate to all persons aged 15 years and over with the exception of members of the permanent armed forces and certain diplomatic staff.

(b) Includes all those who, during the survey week: (i) did any work for pay or profit, or (ii) worked 15 hours or more without pay in a family business (or farm), or (iii) had a job, business or farm but were not at work because of illness, holidays, etc. Included in this category are *employers, self employed persons and employees in agriculture and private domestic service*.

(c) Includes all those who, during the survey week, did no work at all and who: (i) did not have a job and were actively seeking work, or (ii) who were laid off without pay for the whole week.

(d) Includes all those classified as employed or unemployed during the survey week.

### Definitional Differences

Later sections of this chapter give details of the monthly employment series which excludes: (i) employers; (ii) the self-employed; (iii) unpaid helpers; and (iv) employees in agriculture, private domestic service and defence forces. However the labour force series (above) covers all these classes of persons with one exception, the defence forces.

Also, later in this chapter appears an unemployment series based on persons registered with the Department of Labor and Immigration. Since registration is a voluntary act, the unemployment figures appearing in the labour force series will differ from the registration series (in the former series 'actively looking for work' is the basis of the unemployment classification).

### Monthly Series of Employment Statistics

The employment series shown in this chapter is based on comprehensive data (referred to as 'benchmarks') derived from the Census of June 1966. Figures for the period subsequent to the Census of 1966 are estimated from three main sources, namely: (i) current pay-roll tax returns; (ii) current returns from government bodies; and (iii) some other direct current records of employment (e.g. for hospitals), supplemented by estimates of the change in the number of wage and salary earners not covered by the foregoing collections.

The benchmark figures are derived from particulars recorded for individuals on population census schedules, whereas the estimated monthly figures are derived from reports supplied by employers relating to enterprises or establishments. These two sources differ, in some cases, in scope and in reporting of industry; however, the industry dissection of the benchmark total has been adjusted, as far as possible, to an enterprise or establishment reporting basis. The industry classification used throughout the series is that of the Census of June 1966.

Pay-roll tax returns were lodged by all employers paying more than \$400 a week in wages prior to 1 January 1976 (other than certain Australian Government bodies, religious and benevolent institutions, public hospitals and organisations specifically exempted). The \$400 exemption level was effective from 1 September 1957 but was raised to \$800 by the Tasmanian Government with effect from 1 January 1976. The passing of control of pay-roll tax in 1971 from the Australian Government to the states did not affect the production of the wage and salary earners employment series.

It should be noted that employees in rural industry and in private domestic service are not included in the estimates because of the inadequacy of current data. The terms 'employment', 'number employed', 'employees' and 'wage earners' used throughout are synonymous with, and relate to, 'wage and salary earners' on pay-rolls or in employment in the latter part of each month, as distinct from numbers of employees actually working on a specific date. They include some persons working part-time.

Figures for recent periods are subject to revision. As they become available, particulars of employment obtained from other Bureau collections are used to check and, where necessary, to revise estimates in relevant sections.

The table below gives estimated totals for employees in Tasmania at June and December of each year:

**Wage and Salary Earners in Civilian Employment, June and December (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)**  
(<sup>'000</sup>)

Year	June			December		
	Males	Females	Persons	Males	Females	Persons
1968 .. ..	84.7	37.1	121.8	86.4	37.8	124.2
1969 .. ..	86.5	38.1	124.6	88.0	39.4	127.4
1970 .. ..	88.5	39.3	127.8	88.9	40.8	129.7
1971 (a) ..	89.1	40.5	129.6	88.8	40.6	129.4
1972 .. ..	89.4	40.2	129.6	89.8	41.4	131.2
1973 .. ..	90.2	41.9	132.1	92.2	44.0	136.2
1974 .. ..	92.5	44.9	137.4	92.6	44.7	137.3
1975 .. ..	93.0	46.0	139.0			

(a) From July 1971 trainee teachers are excluded; some were previously classified as employees.

The detailed study of employment trends requires examination of monthly figures, so the next table has been compiled to show totals of employees for each month:

**Wage and Salary Earners in Civilian Employment, Monthly Estimates (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)**  
(<sup>'000</sup>)

Month	1973			1974			1975		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
January ..	90.3	41.0	131.3	92.4	43.3	135.7	92.3	44.5	136.8
February ..	90.4	40.9	131.3	92.9	44.1	137.0	92.4	44.8	137.2
March ..	90.9	41.6	132.5	93.1	45.0	138.1	92.5	45.0	137.5
April ..	90.6	42.0	132.6	92.8	45.2	138.0	93.5	45.7	139.2
May ..	90.8	42.3	133.1	93.0	44.8	137.8	93.5	46.0	139.5
June ..	90.2	41.9	132.1	92.5	44.9	137.4	93.0	46.0	139.0
July ..	90.4	42.0	132.4	92.1	44.5	136.6	92.8	46.4	139.2
August ..	90.2	42.0	132.2	91.9	44.4	136.3	92.1	46.1	138.2
September ..	90.1	42.1	132.2	91.4	44.2	135.6	92.1	46.2	138.3
October ..	90.6	42.3	132.9	91.4	44.0	135.4			
November ..	91.2	43.2	134.4	91.9	44.3	136.2			
December ..	92.2	44.0	136.2	92.6	44.7	137.3			

### Civilian Employees of Government Bodies

In Tasmania, as in other Australian states, a relatively high proportion of wage and salary earners is employed by government bodies operating at four levels: Federal, State, local and semi-government (with the complication that semi-government authorities may have been created by either Federal or State legislation). For the purpose of these statistics, government employees include persons working on government services such as railways, bus services, banks, post offices, power and light, air transport, education (including universities), radio, television, police, public works, government factories, departmental hospitals and institutions, etc., as well as those engaged in administrative services.

The following table shows the number of government employees in Tasmania according to the level of government:

**Civilian Employees of Government Bodies at 30 June**  
(<sup>'000</sup>)

Year and sex				Level of government			Total
				Australian (a)	State (a)	Local	
1973—Males..	..	..	..	5.4	18.6	2.7	26.7
Females	..	..	..	1.7	6.8	0.4	8.9
Persons	..	..	..	7.2	25.4	3.1	35.7
1974—Males..	..	..	..	5.7	18.8	2.5	27.0
Females	..	..	..	1.9	7.4	0.4	9.7
Persons	..	..	..	7.6	26.1	2.9	36.6
1975—Males..	..	..	..	5.9	19.6	3.4	28.8
Females	..	..	..	2.1	8.4	0.5	11.0
Persons	..	..	..	8.0	28.0	3.8	39.8

(a) Includes semi-government authorities.

The next table shows employees according to private and government sectors:  
**Total Civilian Employees of Private Employers and Government Authorities at 30 June**  
 ('000)

Year	Private employers			Government authorities		
	Males	Females	Persons	Males	Females	Persons
1971 .. .. .	63.0	31.5	94.5	26.1	9.0	35.1
1972 (a) .. .. .	62.5	31.8	94.3	26.9	8.4	35.3
1973 .. .. .	63.5	33.0	96.4	26.7	8.9	35.7
1974 .. .. .	65.5	35.2	100.8	27.0	9.7	36.6
1975 .. .. .	64.2	35.0	99.2	28.8	11.0	39.8

(a) From 1 July 1971 trainee teachers are excluded; some were previously classified as employees.

### Industrial Classification of Employees

In the following table, wage and salary earners in civilian employment are classified according to industry:

**Wage and Salary Earners in Civilian Employment: Industry Groups and Sub-Groups, June 1975**  
 (Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)  
 ('000)

Industry group and sub-group	Males	Females	Persons
Forestry, fishing and hunting .. .. .	1.3	0.1	1.4
Mining and quarrying .. .. .	4.6	0.4	5.0
Manufacturing .. .. .	26.0	5.8	31.8
Electricity, gas, water and sanitary services .. .. .	3.5	0.3	3.8
Building and construction .. .. .	12.1	0.3	12.4
Transport and storage—			
Road transport and storage .. .. .	3.6	0.4	3.9
Shipping and stevedoring .. .. .	2.0	0.1	2.1
Rail and air transport .. .. .	1.8	0.2	2.0
Total .. .. .	7.4	0.6	8.1
Communication .. .. .	3.0	0.9	3.9
Finance and property—			
Banking .. .. .	1.5	1.1	2.6
Other .. .. .	1.8	1.4	3.2
Total .. .. .	3.2	2.5	5.8
Commerce—			
Retail trade .. .. .	6.5	7.6	14.1
Wholesale and other commerce .. .. .	5.8	1.5	7.3
Total .. .. .	12.3	9.1	21.4
Public authority activities (n.e.i.) .. .. .	5.1	2.7	7.8
Other industries—			
Health, hospitals, etc. .. .. .	2.0	8.0	10.0
Education .. .. .	3.8	4.9	8.7
Amusement, hotels, personal services, etc. .. .. .	5.1	8.0	13.2
Other (a) .. .. .	3.4	2.3	5.7
Total .. .. .	14.3	23.2	37.6
Grand total .. .. .	93.0	46.0	139.0

(a) Comprises: law, order and public safety; religion and social welfare; other community and business services.

The analysis of wage and salary earners by industry groups clearly indicates 'manufacturing' as the predominant activity. As employees in agriculture are excluded from the series, it is not possible to compare employment in primary, secondary and tertiary industries on the basis of the data appearing in the table. ('Employment on Agricultural Holdings' is described in chapter 7 but the seasonal character of this work makes it difficult to estimate the level of rural employment in any given month.) Attention is drawn to the relatively minor level of employment in 'public authority activities (n.e.i.)'; the civilian employees of government bodies shown in a previous table have been classified according to their appropriate industry group (e.g. transport, communication, health, education, etc.) and only those not included in a specified group appear in this item.

#### *Industrial Classification of the Labour Force and of Employees*

The Census of 30 June 1971 provides an analysis of the total labour force (including those engaged in rural industry); the percentage in each broad category was as follows: *primary production* (fishing, hunting, rural industries, forestry), 9.17; *mining and quarrying*, 3.05; *manufacturing*, 20.99; *electricity, gas, water and sanitary services*, 2.45; *building and construction*, 8.60; *transport and storage*, 5.06; *communication*, 2.15; *finance and property*, 5.21; *commerce* (wholesale and retail), 18.05; *public authority (n.e.i.) and defence services*, 4.80; *community and business services (including professional)* (e.g. schools, hospitals, etc.), 11.82; *amusement, hotels and other accommodation, cafes, personal service, etc.*, 5.07; *industry not stated*, 3.58; *total* 100.00.

If the primary group is combined with *mining and quarrying*, only 12 per cent of the labour force was engaged in taking food and other materials direct from the land and the sea; a further 21 per cent was engaged in manufacturing. In other words only 33 per cent of the labour force was engaged in primary and manufacturing industries as defined for statistical purposes.

The next table specifies the main industrial groups and shows the industrial classification of *civilian employees* at annual intervals:

**Wage and Salary Earners in Civilian Employment: Main Industry Groups**  
(Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)  
(<sup>'000</sup>)

At 30 June	Mining and quarrying	Manufacturing (a)	Building and construction	Transport, storage and communication	Retail trade	Wholesale trade, etc.; finance, property	Public authority (n.e.i.); community services, etc. (b)	Amusement, hotels, personal service, etc.
MALES								
1971 .. ..	4.8	28.2	11.4	9.8	6.0	8.8	11.9	3.4
1972 (c) ..	4.9	27.3	11.6	9.7	6.2	8.8	12.4	3.6
1973 .. ..	4.7	27.5	11.0	9.9	6.3	8.9	12.9	4.1
1974 .. ..	4.5	28.0	11.2	10.6	6.6	9.0	13.5	4.5
1975 .. ..	4.6	26.0	12.1	10.4	6.5	9.0	14.3	5.1
FEMALES								
1971.. ..	0.2	6.9	0.3	1.4	6.9	3.7	15.1	5.4
1972 (c) ..	0.2	6.7	0.3	1.4	7.1	3.7	14.9	5.6
1973 .. ..	0.2	6.8	0.3	1.5	7.2	3.8	15.7	6.1
1974 .. ..	0.3	6.8	0.3	1.5	7.7	4.0	16.7	7.2
1975 .. ..	0.4	5.8	0.3	1.5	7.6	4.0	17.9	8.0



**Wage and Salary Earners in Civilian Employment: Main Industry Groups—continued**  
**(Excluding Employees in Agriculture and Private Domestic Service, and Defence Forces)**  
**('000)**

At 30 June	Mining and quarrying	Manufac- turing (a)	Building and construct- tion	Trans- port, storage and communi- cation	Retail trade	Wholesale trade, etc.; finance, property	Public authority (n.e.i.); communi- ty services, etc. (b)	Amuse- ment, hotels, personal service, etc.
PERSONS								
1971 .. ..	5.0	35.2	11.7	11.2	13.0	12.4	26.9	8.8
1972 (c) ..	5.1	34.0	11.9	11.2	13.3	12.5	27.2	9.2
1973 .. ..	4.9	34.3	11.3	11.4	13.6	12.7	28.6	10.2
1974 .. ..	4.8	34.8	11.4	12.1	14.4	13.0	30.1	11.7
1975 .. ..	5.0	31.8	12.4	12.0	14.1	13.1	32.2	13.2

(a) Based on employment of enterprises predominantly engaged in manufacturing.

(b) Includes: law, order and public safety; religion and social welfare; health services; education and other community and business services.

(c) From 1 July 1971 trainee teachers are excluded; some were previously classified as employees.

## UNEMPLOYMENT

### Historical

#### *General*

The total of persons 'unemployed' has been recorded by the Australian Bureau of Statistics at the dates of successive population censuses. The measurement of unemployment is complicated by definitional problems since persons normally in the labour force, but not having a job at the time of a census, may be in this position for reasons other than those associated with scarcity of employment. The classifications used in the 1921 and 1933 population censuses are shown in the *Year Book* 1972. At the 1933 Census, the unemployed were recorded as constituting 13.6 per cent of the labour force.

#### *'Not at Work'*

In the next table, a summary is made of data from the Censuses of 1947, 1954 and 1961, the principal comparison being the respective levels of the labour force and of those classified as 'not at work'.

'Not at work' includes those who stated that they were usually engaged in work but were not actively seeking a job at the time of the census by reason of sickness, accident, etc., or because they were on strike, changing jobs or temporarily laid off, etc. It includes also persons able and willing to work but unable to secure employment, as well as casual and seasonal workers not actually in a job at the time of the census. The numbers shown as 'not at work', therefore, do not represent the number of unemployed available for work but unable to obtain it.

The term 'not at work' does not apply to those who had a job but happened to be absent from it at census date due to sickness or leave.

The interpretation of 'not at work' is made clear by an analysis of the 1961 figures: temporarily laid off, 457 persons; illness, 554; accident, 116; industrial dispute, 5; other causes, 366; *unable to secure employment*, 2 592; total not at work, 4 090 (as shown in table). Obviously this last category, *unable to secure employment*, is the key to measuring unemployment.

**Labour Force and Persons 'Not at Work'**  
**Censuses of 30 June 1947, 1954 and 1961**

Year and sex	Labour force (a)	Persons 'not at work'	
		Number	Proportion of labour force (per cent)
1947—Males .. ..	80 201	1 867	2.3
Females .. ..	20 117	481	2.4
Persons .. ..	100 318	2 348	2.3
1954—Males .. ..	93 976	1 215	1.3
Females .. ..	24 232	279	1.2
Persons .. ..	118 208	1 494	1.3
1961—Males .. ..	101 289	3 194	3.2
Females .. ..	29 628	896	3.0
Persons .. ..	130 917	4 090	3.1

(a) Comprises employers, self-employed, employees, helpers and those 'not at work'.

**'Unemployed'**

In the 1966 Census, the following new question was asked: did the person look for work last week? Answer *yes* or *no*. (Note: 'Looking for work' means: (i) being registered with the Commonwealth Employment Service; or (ii) approaching prospective employers; or (iii) placing or answering advertisements; or (iv) writing letters of application; or (v) awaiting the result of recent applications.) In the 1971 Census this question was asked again with one refinement: was the person seeking a job for the first time or had the person had other jobs before?

After the exclusion of persons who were already employed, but who were seeking alternative employment, the following data were obtained from this approach:

**Labour Force and Unemployed Persons, 1966 and 1971 Censuses**

Year and sex	Labour force	Unemployed	
		Number	Proportion of labour force (per cent)
1966—Males .. ..	106 557	1 146	1.1
Females .. ..	40 765	971	2.4
Persons .. ..	147 322	2 117	1.4
1971—Males .. ..	107 973	1 786	1.7
Females .. ..	45 289	1 261	2.8
Persons .. ..	153 262	(a) 3 047	2.0

(a) Includes 226 males and 277 females 'looking for first job'.

It should be noted that 'not at work' in the 1947-1961 table is different in concept from the 'unemployed' category in the 1966-1971 table.

### Registrations With Commonwealth Employment Service

The Commonwealth Employment Service (C.E.S.) was established by federal legislation under Section 47 of the *Re-establishment and Employment Act 1945*, and under the *Social Services Legislation Declaratory Act 1947*. The principal function of this service is to provide facilities in relation to employment for the benefit of persons seeking to change or obtain employment, or seeking to engage labour, and to provide facilities to assist in bringing about a high and stable level of employment throughout Australia.

The C.E.S. functions within the Employment Division of the Department of Labor and Immigration on a decentralised basis. The central office is in Melbourne; there is a regional office in Hobart with district employment offices in central Hobart, Glenorchy, Clarence, Launceston, Burnie and Devonport. There are also agencies at Smithton, George Town and Huonville.

All applicants for unemployment benefits provided under the federal *Social Services Act 1947*, as amended, must register at a district employment office or agency of the C.E.S. which is responsible for certifying whether or not suitable employment is available. Claims for unemployment benefits are paid by the Department of Social Security; country residents remote from a Social Security employment office or agency may claim by mail.

The establishment of the C.E.S. created two new methods of measuring fluctuations in unemployment:

- (i) the number of persons registered for employment with the C.E.S. at the end of each month; and
- (ii) the number of persons receiving unemployment benefit from the Department of Social Security at the end of each month.

#### 'Registered for Employment'

In the following table the persons shown are those who claimed, when registering with the C.E.S., *that they were not employed* and who were recorded on the last Friday in the month as unplaced. The count includes those referred to employers and those who may have obtained employment without notifying the C.E.S.; persons receiving unemployment benefit are included.

**Persons Registered for Employment With Commonwealth Employment Service  
At June and December of Each Year (a)**

Year	June			December		
	Males	Females	Persons	Males	Females	Persons
1965 .. .. .	1 260	975	2 235	1 426	1 350	2 776
1966 .. .. .	849	846	1 695	1 447	1 260	2 707
1967 .. .. .	1 157	959	2 116	1 716	1 348	3 064
1968 .. .. .	1 145	943	2 088	1 786	1 314	3 100
1969 .. .. .	1 305	815	2 120	1 863	1 612	3 475
1970 .. .. .	1 160	728	1 888	1 791	1 376	3 167
1971 .. .. .	1 726	956	2 682	2 786	1 746	4 532
1972 .. .. .	2 113	1 385	3 498	3 349	2 304	5 653
1973 .. .. .	2 201	1 517	3 718	2 560	1 911	4 471
1974 .. .. .	1 968	1 342	3 310	4 089	3 251	7 340
1975 .. .. .	3 648	2 542	6 190	6 950	3 791	10 741

(a) Recorded as unplaced on the Friday nearest the last day of the month.

In interpreting the level of registration, account should be taken of the fact that registration is a *voluntary act*. Thus, while an increase in registrations may normally be taken to indicate an increase in unemployment, theoretically at least, it could merely indicate wider use of the facilities offered by the Commonwealth Employment Service. (There is an alternative source of data on unemployment which does not suffer from this disability; the section 'Intercensal Labour Force Estimates' earlier in this chapter includes a series showing the number of persons unemployed as one element of the labour force. 'Actively looking for work' is the basis of classification in the labour force series.)

The table that follows has been compiled to show the number registered for employment at the end of each month. The monthly figures are subject to pronounced seasonal influences, the most obvious being the effect of school-leavers on registrations in December and January.

**Persons Registered for Employment With Commonwealth Employment Service  
At End of Each Month (a)**

Month	1973			1974			1975		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
January ..	3 261	2 048	5 309	2 827	1 955	4 782	4 781	3 495	8 276
February ..	2 634	1 841	4 475	2 237	1 790	4 027	4 667	3 335	8 002
March ..	1 825	1 494	3 319	1 759	1 502	3 261	3 815	2 869	6 684
April ..	1 784	1 422	3 206	1 586	1 451	3 037	3 460	2 674	6 134
May ..	1 892	1 449	3 341	1 715	1 408	3 123	3 295	2 631	5 926
June ..	2 201	1 517	3 718	1 968	1 342	3 310	3 648	2 542	6 190
July ..	2 092	1 394	3 486	2 454	1 744	4 198	3 825	2 379	6 204
August ..	2 067	1 325	3 392	2 732	1 785	4 517	4 196	2 305	6 501
September ..	2 060	1 360	3 420	2 957	1 980	4 937	4 631	2 504	7 135
October ..	1 716	1 232	2 948	3 098	2 083	5 181	4 678	2 593	7 271
November ..	1 676	1 302	2 978	2 638	2 170	4 808	4 747	2 749	7 496
December ..	2 560	1 911	4 471	4 089	3 251	7 340	6 950	3 791	10 741

(a) At Friday nearest last day of month.

### Persons Receiving Unemployment Benefit

It is possible for a person to register as unemployed but make no claim for unemployment benefit. On the other hand, a person claiming unemployment benefit is required to register for employment. The next table gives details of persons receiving unemployment benefit each month.

**Number of Persons Receiving Unemployment Benefit By Month (a)**

Month	1969	1970	1971	1972	1973	1974	1975
January ..	648	634	518	1 125	2 572	2 706	4 687
February ..	543	568	502	1 144	2 439	2 538	5 413
March ..	332	404	347	1 113	1 881	1 630	4 938
April ..	410	349	405	1 191	1 862	1 748	3 664
May ..	499	348	574	1 278	2 242	1 655	3 835
June ..	600	437	782	1 697	2 330	1 769	4 439
July ..	714	544	957	1 922	2 279	2 325	4 787
August ..	681	561	1 062	1 854	2 200	2 615	5 223
September ..	628	540	1 165	1 813	2 067	3 139	5 378
October ..	481	473	1 215	1 698	1 692	3 166	5 369
November ..	544	410	1 148	1 879	1 782	2 650	5 634
December ..	621	517	1 399	2 214	2 029	4 210	8 096

(a) Number at the last Saturday of month. Source: Department of Social Security.

The number of males and females in receipt of unemployment benefit is shown for June of each year:

**Persons Receiving Unemployment Benefit at June (a)**

Particulars	1969	1970	1971	1972	1973	1974	1975
Males .. ..	381	290	531	1 087	1 306	1 034	2 717
Females .. ..	219	147	251	610	1 024	735	1 722
Persons .. ..	600	437	782	1 697	2 330	1 769	4 439

(a) Number at the last Saturday of June in each year. Source: Department of Social Security.

### Comparison of Unemployment Data

The following table shows unemployment recorded at the 1961, 1966 and 1971 Censuses and also other measures of unemployment covering approximately the same points in time. In 1966 and 1971 more persons were recorded as unemployed in the census than the number registered with the Department of Labour; however, in 1961 the position was reversed.

**Unemployed Persons, Persons Registered for Employment and Persons Receiving Unemployment Benefit at 30 June**

Particulars	1961	1966			1971		
	Persons	Males	Females	Persons	Males	Females	Persons

#### CENSUS OF 30 JUNE

Unable to secure employment (a)	2 592	1 146	971	2 117	1 786	1 261	3 047
Temporarily laid off .. ..	457						
Illness .. ..	554						
Accident .. ..	116						
Industrial dispute .. ..	5						
Other .. ..	366						
Total 'not at work' .. ..	4 090	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

#### DEPARTMENT OF LABOUR

Registered for employment (b) ..	3 213	849	846	1 695	1 726	956	2 682
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#### DEPARTMENT OF SOCIAL SECURITY

Receiving unemployment benefit(c)	1 336	224	209	433	531	251	782
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(a) Figures for 1966 and 1971 are for category 'unemployed'.

(b) At Friday nearest last day of June.

(c) At last Saturday of June.

### DEPARTMENT OF LABOR AND IMMIGRATION

In addition to its function of operating the Commonwealth Employment Service, the Employment Division of the Department of Labor and Immigration has controlled schemes aimed at reducing the recent high level of unemployment. A brief description of these schemes follows.

### Regional Employment Development Scheme

The Regional Employment Development Scheme (R.E.D.S.) was established in September 1974 to improve employment opportunities in areas of excessively high unemployment by encouraging local initiatives in these areas to develop suitable work programs. The projects were to be labour intensive and socially useful or economically viable.

State and local government instrumentalities, service clubs and sporting bodies were among those who submitted applications for projects. They included such varied projects as: (i) extension of tourist facilities; (ii) forestry work; (iii) extension and development of cultural, social and recreational facilities and services such as library work and provision of sporting facilities; and (iv) a limited amount of public works such as kerbing, street construction and sewerage schemes.

Applicants could claim from the Scheme the cost of materials and other expenditure provided that at least 50 per cent of the total grant was spent on wages for workers recruited from the local office of the Commonwealth Employment Service (C.E.S.). No scheme was permitted to exceed six months in duration. Preference for labour was given to persons who had been out of work longest. The Scheme was not designed to be one of alternative employment and all persons working on R.E.D. Scheme projects were expected to look for work and were included in the job matching processes undertaken by the C.E.S. Employment under the R.E.D. Scheme first commenced in Tasmania in November 1974.

The following table shows the number of persons employed on R.E.D. projects by Commonwealth Employment Service office areas:

**Employment Under the Regional Employment Development Scheme**

Month	Commonwealth Employment Service areas						
	Hobart	Eastern Shore	Glenorchy	Launceston	Devonport	Burnie	Total Tasmania
1974—							
November ..	196	43	24	28	74	17	382
December ..	193	21	24	37	84	47	406
1975—							
January ..	233	34	60	101	121	83	632
February ..	204	36	54	224	177	121	816
March... ..	271	63	50	281	172	169	1 006
April ..	407	93	83	359	214	243	1 399
May ..	452	81	164	512	243	262	1 714
June ..	563	92	179	532	263	258	1 887
July ..	561	157	241	582	330	246	2 117
August ..	421	108	153	495	294	226	1 697

In July 1975 the Australian Government ordered a review of the R.E.D. Scheme and in September it was announced that the Scheme would be phased out. The final projects approved should be completed by the end of February 1976. In the period that the Regional Employment Development Scheme was in existence approximately \$15m was spent on projects in Tasmania.

### National Employment and Training System

In October 1974 the employment training schemes administered by the Department of Labor and Immigration, together with the Training Scheme for Widow Pensioners, were superseded by the National Employment and Training System.

The National Employment and Training (N.E.A.T.) System provided a comprehensive system of labour market training designed to remedy labour imbalances by:

- (i) Alleviating unemployment where it occurs and overcoming skills in short supply.
- (ii) Assisting in the long-term restructuring of the work force by promoting regional development and bringing about overall increases in the general level of skills. Training arrangements cover the full range of occupational skills and, as necessary, provide preliminary and preparatory instruction needed to assist entry into normal training programs and to meet the needs of particular individuals such as the handicapped.

Facilities approved for training include those provided by public and private education institutions but of growing importance is the training provided by industry and commerce by arrangement with employers and with employer industry and trade associations. Trainees are approved primarily on the basis of labour market demand for their existing and proposed skills. Trainees attending educational institutions receive training allowances which are proportions of the average adult male award wage. Employers who provide approved programs of in-industry training and meet the wage costs of trainees are paid a subsidy which is also a percentage of the average adult male award wage.

All applications for employment training through N.E.A.T. are made with the Commonwealth Employment Service which, in its capacity as an employment referral centre, is able to test the labour market and determine an individual's need for training as a means of obtaining satisfactory employment.

## INDUSTRIAL LEGISLATION AND CONDITIONS

### Apprenticeship

#### *Apprenticeship Commission*

The Apprenticeship Commission was set up under the *Apprentices Act 1942* to: (i) encourage, regulate and control training in proclaimed trades; (ii) assist youths towards successful trade courses; and (iii) provide properly trained craftsmen for industry. The Commission, which meets each month, consists of three representatives of trade unions, three of employers' organisations, a nominee of the Minister for Education and the President, all members being appointed for a three-year term. To keep the Commission up-to-date with the latest developments, Trade Advisory Committees have been formed for particular industries, with both employers and employees represented.

Apprentices are trained at work and at technical classes, and supervisors report on the effectiveness of the training; supervisors also give on-the-spot advice to employers and apprentices where their mutual obligations are concerned and refer matters that cannot be settled in this way to the Commission for decision.

#### *Apprenticeships*

An apprenticeship may not be commenced without the consent of the Commission which determines the suitability of employers for training apprentices and the educational qualifications required for entry to a particular trade.

The apprentice serves a probationary period before a contract (indentures) is made with the employer and registered with the Commission. The Commission determines disputes about the contracting parties' rights, duties and liabilities and



no apprenticeship may be terminated, suspended or assigned other than by its authority; when an apprenticeship has been completed, the employer and the Commission certify to this effect. Where apprentices are required to undertake technical training, either at technical classes or by correspondence, instruction is mandatory. Apprentices attend technical classes for eight hours per week during working hours without loss of pay. (Country apprentices in remote areas attend three fortnightly training periods each year.) The progress apprentices make is reported to the Commission and unsatisfactory reports are investigated.

Apprentices are encouraged in the following ways: (i) by payment of *efficiency allowances* for annual examinations passed successfully in the allotted time; (ii) by *certificate of proficiency* for apprentices successfully completing the mandatory trade course of technical instruction; (iii) by reducing the apprenticeship term by one year in some cases, where the qualifying trade course is completed in the allotted time; and (iv) by the award of bursaries.

Four bursaries (two of \$500 and two of \$300) are awarded each year to outstanding apprentices, and a fifth bursary (\$800) is awarded to 'The Apprentice of the Year'. These bursaries are given to assist the most promising apprentices to secure wider trade experience with another employer as part of the apprenticeship training, either in Tasmania or another state. Arrangements are made by the Commission to suit the bursary holders' wishes.

### Number of Apprentices

The following table shows the number of apprentices in Tasmania and also details of apprenticeships registered and completed:

Number of Apprentices; Apprenticeships Registered and Completed

Particulars	1970-71	1971-72	1972-73	1973-74	1974-75
Number at 30 June (a)—					
Indentured apprentices .. ..	3 592	3 583	3 281	4 035	4 265
Apprentices on probation .. ..	320	235	322	180	218
Total .. ..	3 912	3 818	3 603	4 215	4 483
During year—					
New apprenticeships registered ..	990	998	1 117	1 404	1 312
Apprenticeships completed .. ..	763	778	882	750	771

(a) Distributed in proclaimed trades.

### Industrial Accidents

Industrial accident statistics in Tasmania are compiled from returns of workers' compensation claims submitted by insurance companies, self-insurers and State Government departments. The returns are submitted for cases finalised and the statistics do not represent the number of accidents occurring in a particular year. The statistics first published by the Bureau for 1969-70 replaced those formerly published by the Department of Labour and Industry. Because of the number of minor definitional, conceptual and classification changes adopted for the new series, the statistics shown in the following tables are not strictly comparable with those published for earlier years by the Department of Labor and Industry.

The collection is limited to those employees covered by the *Tasmanian Workers' Compensation Act* and therefore excludes self-employed persons, Australian Government employees and the police. Exclusion of self-employed persons is likely to reduce coverage in industries where self-employment is prevalent (e.g. retail trade,

rural industries). Because of the exclusion of Australian Government employees, some industries are not covered at all, while coverage is considerably reduced in other industries (e.g. communications).

In compiling the statistics the following definitions have been adopted:

**Industrial Accident:** A compensated work injury causing death or absence of the injured person from work for one day or more. Disease cases and accidents occurring during journeys or recess periods are included. The number of accidents is based on claims finalised during each year ended 30 June. The accidents to which the claims refer may have occurred in the year the claim was finalised or during any earlier year.

**Time Lost:** The actual time lost from work of persons reported to be temporarily incapacitated or permanently partially-incapacitated as a result of a compensated work injury.

**Cost of Claims:** Includes compensation for wages lost, hospital and medical expenses and lump sum settlements of cases finalised during the year ended 30 June.

**Industry Groups:** Classified in accordance with the Australian Standard Industrial Classification.

The table that follows shows the number of industrial accidents reported during 1973-74 and the time lost through those accidents which caused temporary and permanent partial-disability.

Fatal and Non-fatal Industrial Accidents: Industry Group and Time Lost, 1973-74

Industry group	Accidents		Time lost—temporary disability (a)	
	Fatal	Non-fatal	Total	Average per accident
	no.	no.	weeks	weeks
Primary, mining, etc.—				
Primary production .. .. .	..	720	2 167	3.0
Mining .. .. .	1	551	1 689	3.1
Total .. .. .	1	1 271	3 856	3.0
Manufacturing—				
Food, drink, etc. .. .. .	..	941	1 793	1.9
Wood and wood products, etc. ..	2	1 132	2 505	2.2
Glass and clay products, etc. ..	..	118	265	2.2
Metal and metal products, etc. ..	..	424	687	1.6
Transport equipment .. .. .	..	81	127	1.6
Other manufacturing .. .. .	..	1 139	2 198	1.9
Total .. .. .	2	3 835	7 575	2.0
Other industries—				
Electricity, gas, etc. .. .. .	1	497	957	1.9
Construction .. .. .	3	1 744	3 460	2.0
Wholesale and retail trade .. ..	..	775	1 694	2.2
Transport, storage, etc. .. .. .	4	687	1 946	2.8
Finance and property .. .. .	..	53	113	2.1
Public administration .. .. .	..	93	137	1.5
Community services .. .. .	..	328	720	2.2
Amusements, hotels, etc. .. ..	..	181	590	3.3
Total .. .. .	8	4 358	9 619	2.2
Grand total .. .. .	11	9 464	21 049	2.2

(a) Includes permanent partial-disability cases.

The cost of industrial accidents, as applicable to each industrial group, is shown in the next table:

Industrial Accidents: Industry Group and Cost of Claims, 1973-74  
(\$)

Industry group	Cost of claims			
	Fatal accidents	Non-fatal accidents	Total accidents	Average per non-fatal accident
Primary, mining, etc.—				
Primary production .. .. .		207 543	207 543	288
Mining .. .. .	14 563	389 597	404 160	708
Total .. .. .	14 563	597 140	611 703	470
Manufacturing—				
Food, drink, etc. .. .. .		169 808	169 808	180
Wood and wood products, etc. .. .. .	56 723	259 097	315 820	229
Glass and clay products, etc. .. .. .		21 830	21 830	185
Metal and metal products, etc. .. .. .		104 606	104 606	247
Transport equipment .. .. .		15 793	15 793	195
Other manufacturing .. .. .		257 316	257 316	226
Total .. .. .	56 723	828 450	885 173	216
Other industries—				
Electricity, gas, etc. .. .. .	48 166	121 869	170 035	246
Construction .. .. .	21 145	492 173	513 318	283
Wholesale and retail trade .. .. .		159 642	159 642	206
Transport, storage, etc. .. .. .	71 898	211 835	283 733	308
Finance and property .. .. .		8 580	8 580	162
Public administration .. .. .		23 426	23 426	252
Community services .. .. .		74 717	74 717	228
Amusements, hotels, etc. .. .. .		50 373	50 373	278
Total .. .. .	141 209	1 142 615	1 283 824	262
Grand total .. .. .	212 495	2 568 205	2 780 700	271

### Industrial Safety and Accident Prevention

*Responsibility:* The Department of Labor and Industry is concerned with industrial safety and accident prevention and discharges this function with the knowledge that there are approximately 10 000 accidents each year involving lost time (of more than one day), among the population covered by the *Workers' Compensation Act*.

*Prevention:* Prevention obviously has a two-fold aspect: (i) inspection programs aimed at pin-pointing unsafe working conditions; and (ii) education and training designed to eliminate unsafe actions.

*Training:* The problem of training is basically one of educating supervisors and foremen, since an attitude of 'safety consciousness' has to start with management. Formal training in industrial safety and accident prevention is available at Hobart and Launceston Technical Colleges in two-year courses. Informal training is arranged by the Department of Labor and Industry, the two-day courses being based on the concept of 'training within industry'. Single lectures on industrial and farm safety are also available and the Department makes arrangements to provide lecturers on request.

**Safety Officers:** It is expected that large undertakings will have their own specialists concerned with safety matters. However, government safety officers are available to industries which may use their services for short periods. Their function is purely advisory and they assist organisations which wish to stress safety or to reduce their accident rates.

**Research Facilities:** The Department carries out a safety research program. A comprehensive classification of safety data and information is maintained from local, interstate and overseas sources.

### Workers' Compensation

**Legislation:** Workers' compensation legislation in Tasmania was first introduced in 1910 but it was not until 1927 that the principle of compulsory insurance was embodied in the *Workers' Compensation Act 1927*, as amended.

**Purpose and Limitations:** The principle of the Act is provision for compensation on the death or disablement of a worker, if occasioned by personal injury arising out of and during the course of employment. In 1970 the Act was amended to extend compensation cover for injuries sustained by a worker travelling in either direction between his residence and place of employment. The Act provides that this cover to and from work applies only for reasonably direct journeys, except for breaks or deviations connected with the worker's employment. Amendments in 1970 extended coverage to workers who are temporarily absent from work during meal breaks. Self-inflicted injuries are excluded and certain limitations are applied where serious or wilful misconduct is involved. Monetary benefits have fixed limits. All reasonable costs of medical, hospital, nursing and ambulance services, and in the event of death, the reasonable costs of burial or cremation are paid. In addition weekly payments are made during incapacity and there is a lump sum entitlement for scheduled injuries.

**Non-contributory Basis:** The Act is non-contributory, i.e. the worker does not pay into any fund for the provision of benefits. The employer is obliged to insure with an approved insurance company against the liability to compensation, except in certain cases where he is allowed to carry his own risk.

In any case where an employer has no paid-up insurance policy, where the employer cannot be found or where the employer or his insurance company has become insolvent, the worker may claim against a 'nominal insurer', as if he were the employer.

Amounts paid by the 'nominal insurer' are provided by all insurance companies carrying on workers' compensation business. Each company is required to contribute to these types of claims in proportion to the premium income derived from policies issued during the preceding year.

**Compensation on Death:** Where death results from an injury, the compensation payable to dependants wholly dependent on the worker's earnings is 284 times the current Hobart base rate, plus seven times the current Hobart base rate for each worker's child under sixteen years at the date of injury. Partial dependants are entitled to proportionate amounts.

**Base Rate** means the minimum weekly wage payable to the lowest paid adult male employed at Hobart under the federal Metal Trades Award (in June 1974 the minimum was \$68.70 per week).

**Weekly Payments During Incapacity:** When the worker is *totally incapacitated* he is entitled to receive weekly compensation payments at whichever of the following alternatives is greater: (i) the rate of his average weekly earnings over the period of twelve months immediately preceding the period of incapacity; or (ii) the

ordinary time rate of pay for the work on which he was engaged immediately prior to the period of incapacity. When the worker is *partially incapacitated* the weekly payments are reduced by any amount that he is able to earn in some other suitable employment.

**Maximum Limit of Weekly Payments:** In cases of partial or total incapacity of any worker, the total liability of an employer in making weekly compensation payments is limited to 284 times the current Hobart base rate.

**Lump Sum Payments:** In addition to weekly incapacity payments, lump sum payments are made in respect of the loss of members of the body or of bodily powers of function. In the Act, specific injuries are listed and the single amount payable is related to the current Hobart base rate (specified as B in the following examples): (i) loss of both feet,  $B \times 284$ ; (ii) loss of leg,  $B \times 138$ ; (iii) loss of thumb,  $B \times 51$ ; and (iv) loss of great toe,  $B \times 35$ , etc. Where more than one of these injuries are suffered in the same accident, a maximum payment equal to  $B \times 532$  may be paid.

### Factory Legislation and Inspection

**Legislation:** Working conditions in factories in Tasmania are covered under the *Factories, Shops and Offices Act 1965*, as amended, which makes provisions with respect to the health, welfare, safety, and working conditions of persons employed in factories, shops and offices and the sanitation of factories, shops and offices.

**Registration Fees:** All factories are required to register with the Department of Labor and Industry; fees date from 1 January each year. Fees for registration range from \$3 for small factories (where less than four persons are employed), up to \$345 for factories employing more than 800 persons.

**New Factories:** The *Local Government Act 1962* requires that plans and specifications for proposed new factory buildings be submitted to the Department of Labor and Industry before being approved by the local government authority. This ensures compliance of the proposed factory buildings with regulations in regard to natural lighting, ventilation, fire exits, fire protection, stairs, access ladders, platforms, change and meal rooms, etc.

**Application for Registration:** Following application for registration of premises to be used as a factory, an inspection is made. If the premises are suitable without alteration, a certificate of registration is issued. If alterations are required, a permit to occupy may be issued for a limited time while renovations, to comply with the Act's requirements, are made. Once the factory is operating, a further inspection is made to study processes and working conditions. Any unsafe situations and practices are drawn to the attention of management.

**Inspection:** After the initial registration, routine inspections are made by officers of the Department to remedy or prevent unsafe conditions or unsafe practices which may have developed. Particular attention is given to overcrowding, ventilation, natural and artificial lighting, conditions of floors, etc. Access ladders and platforms are checked for compliance with prescribed standards. If contamination of the atmosphere by dust or toxic fumes is present, means of removal are studied. Safe handling and storage of dangerous substances; the provision of fire protection, fire exits and escapes; adequacy of sanitary conveniences, washing, change and meal rooms; the provision of safety equipment, etc., are periodically checked.

*Accident Reports:* Factory management is required to notify the Department of Labour and Industry when an accident occurs which results in death, permanent disability, or the inability of an employee to work where the period of inability is in excess of one full day or shift. These accidents are investigated in an endeavour to eliminate recurrences. See 'Industrial Safety and Accident Prevention' in this chapter.

*Construction Sites:* Regulations also apply to working conditions on construction works and provide for suitable sanitary, washing and general amenities, in addition to general safety precautions. Where persons are required to work on any construction works at a height of not less than 6.096 metres (20 feet) above the ground or at a depth of not less than 1.524 metres (five feet) below ground level, the provision of safety helmets is compulsory.

### **The Inspection of Machinery**

*Legislation:* Generally, the *Inspection of Machinery Act* 1960, as amended, applies to all machinery of one or more horsepower used in manufacturing or industrial processes and specifically includes boilers, pressure vessels, lifts and cranes. By proclamation, machines not ordinarily covered by the Act may be made subject to its provisions. The Department of Labor and Industry is responsible for application of the Act which is administered by a chief inspector and district inspectors at Hobart, Launceston, Burnie and Devonport.

*Machinery Inspection:* An owner (defined as a person who has the control of or is in charge of machinery) acquiring machinery as defined in the Act is required to notify the nearest district inspector to obtain a certificate of safety. Inspection may reveal the need for additional safeguards before permission can be given to operate the machine; alternatively the owner may be given a set period in which to comply.

Certificates of safety are renewed annually providing the machinery satisfies current efficiency and safety standards.

*Lifts Inspection:* Lifts, cranes and hoists are subject to the same inspections as other machinery. In addition, design approval must be obtained before construction; tests, including beam deflections under load, are made on completion.

*Boiler Inspection:* Before boilers or pressure vessels are installed, the design must be approved by the Chief Inspector and conform with Australian or specified overseas standards. Inspections are made on installation and thereafter annually, unless a special investigation is required arising from plant modification, accidents or 'from employers' or employees' requests.

### **Long Service Leave for Casual Employees**

#### *Coverage*

The *Long Service Leave (Casual Employment) Act* 1971, which came into force on 23 March 1972, extended long service leave entitlements to casual workers in the building and construction industry. Building and construction, for purposes of the Act, embraces a wide range of activities: construction, reconstruction, alteration, demolition, maintenance or repair of: (i) buildings; (ii) roads, bridges and railways; (iii) port, harbour and navigation facilities; (iv) water, irrigation and sewerage works; (v) pipelines; (vi) drilling rigs; (vii) structures (e.g. scaffolding or cranes) and site preparation associated with any of the forementioned purposes; and (viii) work on ships, boats or other vessels. Dunnaging of ships' holds also comes within the Act's ambit.

### *Calculation of Reckonable Service*

Reckonable service is employment which counts towards the calculation of long service leave entitlements. The qualifying units to be accrued are periods of at least one full day's employment with each employer. If a person ceases work after at least seven days or more the employer is required to furnish a certificate, showing duration of employment of the employee, to the Secretary for Labour and Industry and is also required to make a payment into the Long Service Leave (Casual Employment) Fund.

Certain interruptions to employment are counted as a part of the working period for calculation of reckonable service. Included are: (i) annual leave; (ii) leave from work caused by illness or injury and certified by a medical practitioner; (iii) leave, with consent of the employer, to attend a meeting of the Apprenticeship Commission of Tasmania or any committee appointed under the *Apprentices Act 1942*; (iv) leave resulting from on-the-job injury; (v) absence from work resulting from a summons to serve as a juror or give evidence before a court; (vi) leave to attend to his duties as a member of a Wages Board; and (vii) absence from work on a public holiday in accordance with the terms and conditions of employment. Absences from work caused by industrial disputes are not counted as part of service for purposes of calculating reckonable service.

When an employee has accumulated the equivalent of 15 years service he becomes entitled to a long service leave payment. In certain circumstances (e.g. employment terminated through incapacity of the employee to continue work or at any time after retiring age has been reached) long service leave may be paid after seven years work on a pro-rata basis.

### *Administration*

The Secretary for Labor and Industry is required to maintain records showing service of each employee covered by the Act. These records are the basis for paying long service leave entitlements. Departmental inspectors are responsible for policing provisions of the Act and regulations made under it. It is the inspector's responsibility to ensure that employers maintain the necessary employment records and furnish correct certificates to the Secretary for Labor and Industry. They are permitted to carry out enquiries to ascertain whether an employee is working on a job deemed as counting towards the calculation of reckonable service. To assist inspectors carry out these duties, the Act gives them the right of access to employers' premises.

The legislation established a special trust fund, the Long Service Leave (Casual Employment) Fund, which is administered by Treasury Department officials. The main receipts into the fund are long service leave contributions paid by employers. The fund is also credited with any other receipts which may be required under the Act. From the fund are paid long service leave entitlements, costs incurred by Treasury in administering the fund and any other amount as required by the Act.

### **Shop Trading Hours**

*Legislation:* Before 1967 shop trading hours were regulated by the *Factories, Shops, and Offices Act 1958*, as amended. A deadlock between the two houses of the Tasmanian Parliament in 1967 resulted in the removal of all legislative restrictions on shop trading hours as from 1 January 1968.

However, a limiting factor was introduced with the adoption by Wages Boards of increased penalty rates for retail trade employees. As a result few shopkeepers have varied their trading hours from those which applied under the relevant section of the *Factories, Shops, and Offices Act*.



**Petrol Filling Stations:** Ordinary permitted hours are 6.30 a.m. to 7.30 p.m. on weekdays (with an extra two hours on Friday evening) and 12.30 p.m. closing on Saturdays and public holidays. A roster system operates to give the public an opportunity to buy petrol outside these hours and on Sundays.

### TRADE UNIONS

The following table shows details of the number of unions and the number of members in Tasmania:

Trade Unions: Numbers and Membership

Year ended 31 December	Number of separate unions	Number of members ( <sup>000</sup> )	Increase in membership (a) (per cent)
1939 .. .. .	79	22.1	..
1971 .. .. .	111	75.2	1.8
1972 .. .. .	112	80.5	7.1
1973 .. .. .	118	84.1	4.5
1974 .. .. .	120	89.1	5.9

(a) On preceding year.

### PRICES

#### Retail Prices and Price Indexes

##### General

The description of price indexes that follows is mainly an abridgement of the text appearing in the *Labour Report* of the Australian Bureau of Statistics; this report is a basic document in any serious study of official price indexes.

##### Retail Price Index Numbers from 1901

Retail prices of food and groceries and average rentals of houses for periods extending back to the year 1901 were collected by the Commonwealth Statistician. A continuous price series from 1901 to the present day (shown below) has been constructed from the various indexes in use during this period to provide a broad indication of long-term trends in retail price levels. The index numbers are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are: 1901-1914, the 'A' Series; from 1914 to 1946-47, the 'C' Series; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series excluding rent; and from 1948-49, the Consumer Price Index. It should be noted that this long-term series is for the six capital cities combined, *not for Hobart alone*.

Retail Price Index Numbers from 1901  
Six State Capital Cities Combined  
(Base: Year 1911 = 100)

Year	Index number	Percent- age change (a)	Year	Index number	Percent- age change (a)	Year	Index number	Percent- age change (a)
1901 .. ..	88	..	1946 ..	190	1.6	1970 ..	586	3.9
1911 .. ..	100	3.1	1951 ..	313	19.5	1971 ..	621	6.0
1921 (b) ..	168	-13.0	1956 ..	419	6.3	1972 ..	658	6.0
1926 .. ..	168	1.8	1961 ..	471	2.6	1973 ..	720	9.4
1931 .. ..	145	-10.5	1966 ..	517	3.0	1974 ..	829	15.1
1936 .. ..	141	2.2	1969 ..	564	2.9	1975 ..	954	15.1
1941 .. ..	167	5.0						

(a) Over previous year (previous year's figures not necessarily shown in table).

(b) November; remaining figures are averages for the respective years.

*Consumer Price Index*

The index currently in use is the Consumer Price Index. A comprehensive view of the present composition and weighting of the Consumer Price Index is given in the following table:

**Consumer Price Index**  
**Composition and Weighting Pattern at December Quarter 1973 (a):**  
**Six State Capital Cities Combined**

Group, section, etc.	Percentage weight	
	Section, etc.	Group
Food—		
Cereal products .. .. .	3.0	28.3
Dairy produce .. .. .	4.6	
Potatoes, onions, preserved fruit and vegetables .. .. .	2.7	
Soft drink, ice cream and confectionery .. .. .	4.0	
Meat—Butchers' .. .. .	7.7	
Processed .. .. .	3.0	
Snacks, take-away food .. .. .	0.9	
Other food .. .. .	2.4	
Clothing and drapery—		
Men's clothing .. .. .	3.2	12.1
Women's clothing .. .. .	4.0	
Boys' clothing .. .. .	0.5	
Girls' clothing .. .. .	0.4	
Piecegoods, etc. .. .. .	0.8	
Footwear .. .. .	2.3	
Household drapery .. .. .	0.9	
Housing—		
Rent—Privately owned houses .. .. .	2.8	14.4
Government-owned houses .. .. .	0.6	
Privately-owned flats .. .. .	3.4	
Home ownership—House price .. .. .	3.6	
Rates .. .. .	2.3	
Repairs and maintenance .. .. .	1.7	
Household supplies and equipment—		
Fuel and light—Electricity .. .. .	1.9	11.3
Gas .. .. .	0.7	
Other (firewood, heating oil, briquettes and kerosene) .. .. .	0.3	
Household appliances .. .. .	2.2	
Furniture and floor coverings .. .. .	2.0	
Household utensils .. .. .	0.7	
Household sundries .. .. .	1.2	
Personal requisites .. .. .	1.3	
Proprietary medicines .. .. .	1.0	
Miscellaneous—		
Fares—Train .. .. .	0.7	33.9
Tram and bus .. .. .	1.0	
Private motoring—Car purchase .. .. .	4.4	
Car operation .. .. .	8.6	
Tobacco and cigarettes .. .. .	3.6	
Beer .. .. .	4.5	
Wine and spirits .. .. .	1.2	
Postal and telephone services .. .. .	1.3	
Recreational goods and services .. .. .	2.0	
Newspapers and magazines .. .. .	1.1	
Health services .. .. .	4.0	
Other services (hairdressing, dry cleaning, shoe repairs) .. .. .	1.5	
Total .. .. .	100.0	100.0

(a) A minor change in this weighting pattern (from September 1974) was necessitated by the deletion of the item 'radio and television licences' from the index.

The weights shown in the previous table are those comprising the index for the six state capital cities combined. Broadly they are based on the estimated pattern of consumption at or about 1971-72 valued at relevant prices of December quarter 1973. The weighting indicates the relative influence given to the various components in measuring the degree of price change in the index from December quarter 1973 (i.e. from the beginning of the seventh linked series).

*Comparison of the Linked Series:* The Consumer Price Index is a chain of 'fixed weight aggregative' indexes, with significant changes in composition and weighting made at the linking dates; the principal changes were:

- (i) June quarter 1952—introduction of private motoring; changed proportions for modes of house occupancy; change in weights of fuel and fares.
- (ii) June quarter 1956—changed proportions in modes of house occupancy; changed weights for fuel, fares and private motoring.
- (iii) March quarter 1960—introduction of television.
- (iv) December quarter 1963—changed weights for fuel, light, fares and motoring; revised housing weights.
- (v) December quarter 1968—changed weights for all items; introduction of poultry, rented privately-owned flats, heating oil, briquettes and health services (by dentists, doctors, hospitals and health insurance funds).
- (vi) December quarter 1973—changed weights for all items; items fried chicken, meat pies, hamburgers and sandwiches added to the 'Food group' forming a new sub-group ('Snacks, take away food'). A new sub-group added to the 'Miscellaneous group' ('Recreational goods and services') which, in addition to including radio and television operation and cinema admission, also covered new items: camera, film, film processing and phonograph records. Weights for the motoring section took account of data from the 1971 Survey of Motor Vehicle Usage and local weights for individual cities were used for hairdressing, dry cleaning, cinema admission and health services.

The next table has been compiled to show the percentage contribution to the total index of each of the major groups, first at the beginning of each series, and then at the quarter in which the linking transition was made.

**Consumer Price Index: Analysis of Weighting in Seven Linked Series**

Linked series	Percentage contribution to total index (weighted average, six capital cities)					
	Food group	Clothing and drapery group	Housing group	Household supplies and equipment group	Miscellaneous group	Total
First—						
June quarter 1949 ..	31.3	22.8	11.4	13.1	21.4	100.0
June quarter 1952 (a) ..	35.7	23.0	9.2	12.2	19.9	100.0
Second—						
June quarter 1952 (b) ..	33.6	21.6	9.4	11.7	23.7	100.0
June quarter 1956 (a) ..	34.3	20.0	10.5	10.9	24.3	100.0
Third—						
June quarter 1956 (b) ..	33.7	19.7	10.5	11.6	24.5	100.0
March quarter 1960 (a) ..	33.0	19.5	11.0	11.5	25.0	100.0

Consumer Price Index: Analysis of Weighting in Seven Linked Series—*continued*

Linked series	Percentage contribution to total index (weighted average, six capital cities)					
	Food group	Clothing and drapery group	Housing group	Household supplies and equipment group	Miscellaneous group	Total
Fourth—						
March quarter 1960 (b) ..	32.1	19.0	10.7	13.2	25.0	100.0
Dec. quarter 1963 (a) ..	31.6	18.8	12.0	12.6	25.0	100.0
Fifth—						
Dec. quarter 1963 (b) ..	32.1	16.9	12.6	14.5	23.9	100.0
Dec. quarter 1968 (a) ..	32.8	15.8	13.2	13.1	25.1	100.0
Sixth—						
Dec. quarter 1968 (b) ..	31.3	14.1	14.2	12.5	27.9	100.0
Seventh—						
Dec. quarter 1973 (b) ..	28.3	12.1	14.4	11.3	33.9	100.0

(a) Change in proportions due to disparate price movements during short period shown.

(b) Change in proportions due to deliberate changes in composition or weighting.

*Six Capital Cities:* A consumer price index series is constructed for each state capital city. These indexes measure price movements in each city individually (but do not provide a basis for the comparison of the retail price level in one city with that in any other city). The six capital cities Consumer Price Index is derived as the weighted average of the indexes for the individual cities, the basis of weighting being their populations as recorded at successive censuses.

*Consumer Price Index, Hobart*

The Consumer Price Index for Hobart is compiled to the base 1966-67=100.0, the number 100.0 being the base value for each of the five major groups and also for the 'All groups' index.

The following table has been compiled to show group index movements for Hobart on a quarterly basis:

## Consumer Price Index: Quarterly Group Index Numbers, Hobart (a)

(Base of Each Index: Year 1966-67 = 100.0)

Quarter	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellaneous	All groups	
						Index	Percentage change (b)
1970-71—							
September ..	108.4	109.5	115.0	107.6	112.2	110.2	0.5
December ..	110.1	111.0	117.0	108.4	116.3	112.4	2.0
March.. ..	109.5	112.0	118.2	109.1	118.3	113.2	0.7
June .. ..	110.2	115.0	119.2	111.6	119.4	114.6	1.2
1971-72—							
September ..	111.3	115.9	120.4	112.4	123.8	116.5	1.7
December ..	113.0	118.2	124.1	117.4	130.3	120.3	3.3
March.. ..	113.5	118.7	125.3	117.7	130.8	120.9	0.5
June .. ..	113.9	121.1	126.8	118.1	132.1	122.0	0.9

**Consumer Price Index: Quarterly Group Index Numbers, Hobart (a)—continued**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Quarter	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellan- eous	All groups	
						Index	Percentage change ( <i>b</i> )
1972-73—							
September ..	115.9	121.8	128.3	118.9	133.5	123.4	1.1
December ..	117.9	124.6	131.6	119.6	134.0	125.1	1.4
March.. ..	121.4	125.5	132.7	120.3	137.7	127.5	1.9
June .. ..	124.9	130.4	134.4	122.5	141.0	130.8	2.6
1973-74—							
September ..	131.9	134.2	137.1	125.5	144.2	135.2	3.4
December ..	139.7	139.8	146.8	126.7	148.6	141.1	4.4
March.. ..	144.2	142.7	149.8	128.4	150.7	144.0	2.1
June .. ..	149.7	152.9	153.9	132.5	156.6	149.9	4.1
1974-75—							
September ..	155.1	160.3	163.6	139.1	165.8	157.4	5.0
December ..	158.0	171.6	179.8	148.3	174.2	165.5	5.1
March.. ..	158.1	174.0	186.0	153.2	180.4	169.3	2.3
June .. ..	163.1	181.3	194.2	156.0	185.2	174.6	3.1

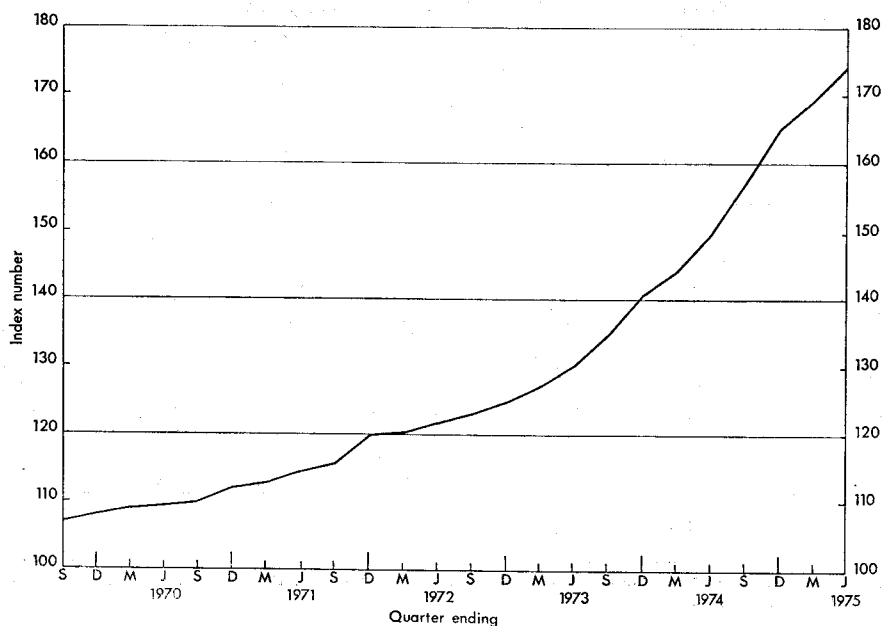
**PERCENTAGE CHANGE: JUNE QUARTER 1975 OVER JUNE QUARTER 1974**

	9.0	18.6	26.2	17.7	18.3	16.5	..
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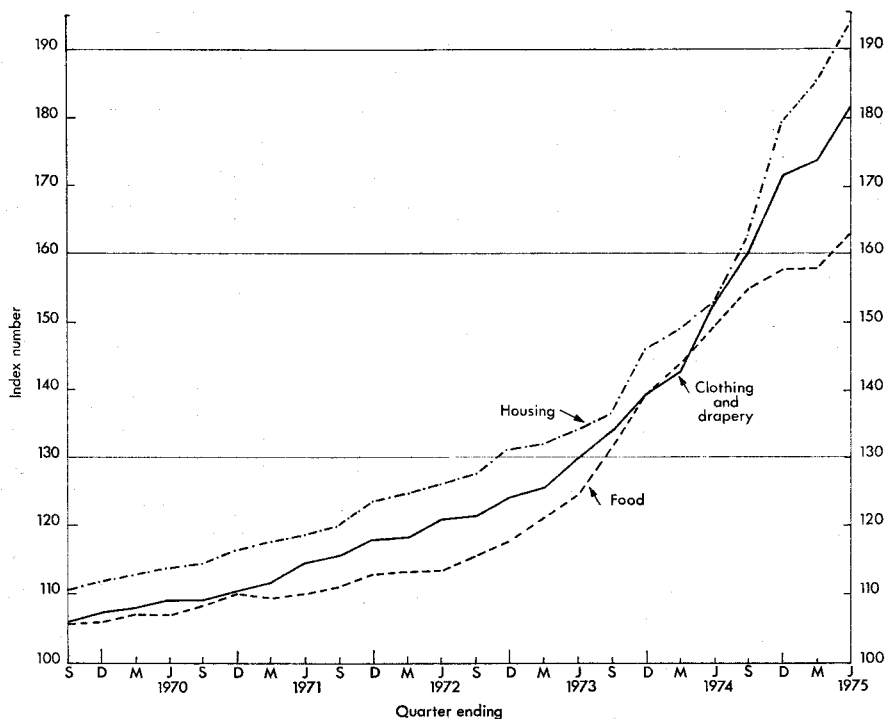
(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Over preceding quarter.

**CONSUMER PRICE INDEX, HOBART**  
**QUARTERLY ALL GROUPS INDEX NUMBERS**  
**(Base of Each Index: Year 1966-67 = 100.0)**



**CONSUMER PRICE INDEX, HOBART**  
**QUARTERLY FOOD, CLOTHING AND DRAPERY, AND HOUSING GROUPS**  
 (Base of Each Index: Year 1966-67 = 100.0)



The following table shows the 'All groups' index numbers for Hobart, quarter by quarter, and also as averages for financial years:

**Consumer Price Index: All Groups Index Numbers, Hobart (a)**  
 (Base of Index: Year 1966-67 = 100.0)

Year	Quarter ending—				Average for year	
	September	December	March	June	Index	Percentage change (b)
1964-65 ..	93.3	94.5	94.9	95.8	94.6	3.2
1965-66 ..	97.0	98.3	97.8	98.7	98.0	3.6
1966-67 ..	98.6	99.2	100.6	101.5	100.0	2.0
1967-68 ..	104.3	105.0	104.6	104.6	104.6	4.6
1968-69 ..	105.0	105.8	106.5	107.0	106.1	1.4
1969-70 ..	107.4	108.1	108.9	109.6	108.5	2.3
1970-71 ..	110.2	112.4	113.2	114.6	112.6	3.8
1971-72 ..	116.5	120.3	120.9	122.0	119.9	6.5
1972-73 ..	123.4	125.1	127.5	130.8	126.7	5.7
1973-74 ..	135.2	141.1	144.0	149.9	142.6	12.5
1974-75 ..	157.4	165.5	169.3	174.6	166.7	16.9

**PERCENTAGE CHANGE: 1974-75 QUARTER OVER CORRESPONDING 1973-74 QUARTER**

	16.4	17.3	17.6	16.5	..	..
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(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Over previous year.

The next table shows, as averages for financial years, the group indexes for Hobart:

**Consumer Price Index: Annual Group Index Numbers, Hobart (a)**  
(Base of Each Index: Year 1966-67 = 100.0)

Year	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellaneous	All groups	
						Index	Percentage change (b)
1964-65 .. ..	94.0	97.0	94.5	97.6	92.0	94.6	3.2
1965-66 .. ..	98.9	98.0	97.1	98.6	96.7	98.0	3.6
1966-67 .. ..	100.0	100.0	100.0	100.0	100.0	100.0	2.0
1967-68 .. ..	106.8	102.4	103.6	102.9	104.5	104.6	4.6
1968-69 .. ..	105.3	104.5	108.4	104.5	108.0	106.1	1.4
1969-70 .. ..	106.4	107.9	112.6	106.1	111.0	108.5	2.3
1970-71 .. ..	109.6	111.9	117.4	109.2	116.6	112.6	3.8
1971-72 .. ..	112.9	118.5	124.2	116.4	129.3	119.9	6.5
1972-73 .. ..	120.0	125.6	131.8	120.3	136.6	126.7	5.7
1973-74 .. ..	141.4	142.4	146.9	128.3	150.0	142.6	12.5
1974-75 .. ..	158.6	171.8	180.9	149.2	176.4	166.7	16.9

PERCENTAGE CHANGE: 1974-75 OVER 1973-74

	12.2	20.6	23.1	16.3	17.6	16.9	..
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(a) Figures after decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Over preceding year.

### Consumer Price Indexes: Capital Cities

The following table shows consumer price index figures for recent years for each state capital city and for the six state capitals combined:

#### Consumer Price Index

All Groups—Six State Capital Cities and Weighted Average

(Base of Index for Each City and for Six State Capital Cities Combined: Year 1966-67 = 100.0) (a)

Year	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Six capitals (b)	
							Index	Percentage change (c)
1964-65 .. ..	94.5	94.0	93.0	93.9	92.6	94.6	94.0	3.8
1965-66 .. ..	97.7	97.5	97.5	97.0	96.1	98.0	97.4	3.6
1966-67 .. ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	2.7
1967-68 .. ..	103.2	103.7	103.3	102.9	102.9	104.6	103.3	3.3
1968-69 .. ..	106.2	106.2	105.5	105.3	105.5	106.1	106.0	2.6
1969-70 .. ..	110.6	108.7	108.4	108.2	109.4	108.5	109.4	3.2
1970-71 .. ..	116.8	113.1	114.2	112.5	114.1	112.6	114.6	4.8
1971-72 .. ..	126.3	119.7	121.6	119.2	120.7	119.9	122.4	6.8
1972-73 .. ..	133.9	127.2	128.6	126.5	127.3	126.7	129.8	6.0
1973-74 .. ..	151.3	144.0	146.1	143.9	140.6	142.6	146.6	12.9
1974-75 .. ..	176.1	167.9	168.7	169.7	166.1	166.7	171.1	16.7

PERCENTAGE CHANGE: 1974-75 OVER 1973-74

	16.4	16.6	15.5	17.9	18.1	16.9	16.7	..
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(a) Figures after the decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Weighted average of six state capital cities.

(c) Over preceding year.



The next table summarises index numbers and percentage changes for the 'All Groups' consumer price index for the six state capital cities combined.

**Consumer Price Index: All Groups**  
**Australia—Six State Capital Cities (a): Summary**  
 (Base of Index: Year 1966-67 = 100.0)

Quarter	Quarter		Percentage change from same quarter of preceding year	Calendar year (b)		Fiscal year (b)	
	Index number	Percentage change (c)		Index number	Percentage change (c)	Index number	Percentage change (c)
1970—							
September ..	111.9	+0.6	+ 3.8	111.7 (1970)	+ 3.9	114.6 (1970-71)	+ 4.8
December ..	114.0	+1.9	+ 4.9				
1971—							
March.. ..	115.2	+1.1	+ 4.9	118.5 (1971)	+ 6.1	122.4 (1971-72)	+ 6.8
June .. ..	117.2	+1.7	+ 5.4				
September ..	119.4	+1.9	+ 6.7	125.5 (1972)	+ 5.9	129.8 (1972-73)	+ 6.0
December ..	122.2	+2.3	+ 7.2				
1972—							
March.. ..	123.4	+1.0	+ 7.1	137.3 (1973)	+ 9.4	146.6 (1973-74)	+12.9
June .. ..	124.5	+0.9	+ 6.2				
September ..	126.2	+1.4	+ 5.7	158.1 (1974)	+15.1	171.1 (1974-75)	+16.7
December ..	127.7	+1.2	+ 4.5				
1973—							
March.. ..	130.4	+2.1	+ 5.7	181.9 (1975)	+15.1		
June .. ..	134.7	+3.3	+ 8.2				
September ..	139.6	+3.6	+10.6				
December ..	144.6	+3.6	+13.2				
1974—							
March.. ..	148.1	+2.4	+13.6				
June .. ..	154.1	+4.1	+14.4				
September ..	162.0	+5.1	+16.0				
December ..	168.1	+3.8	+16.3				
1975—							
March.. ..	174.1	+3.6	+17.6				
June .. ..	180.2	+3.5	+16.9				
September (d)	181.6	+0.8	+12.1				
December (d)	191.7	+5.6	+14.0				

(a) Weighted average of six state capital cities combined.

(b) Calendar year and fiscal year index numbers are averages of the four respective quarterly index numbers.

(c) Over preceding period (year or quarter).

(d) Affected by the introduction of medibank and consequent reduction in the cost of medical services.

The bar graph on the next page shows percentage changes (over the previous year) in the 'All Groups' Consumer Price Index for the six state capitals combined for fiscal years from 1956-57.

#### *Average Prices of Foodstuffs, Hobart*

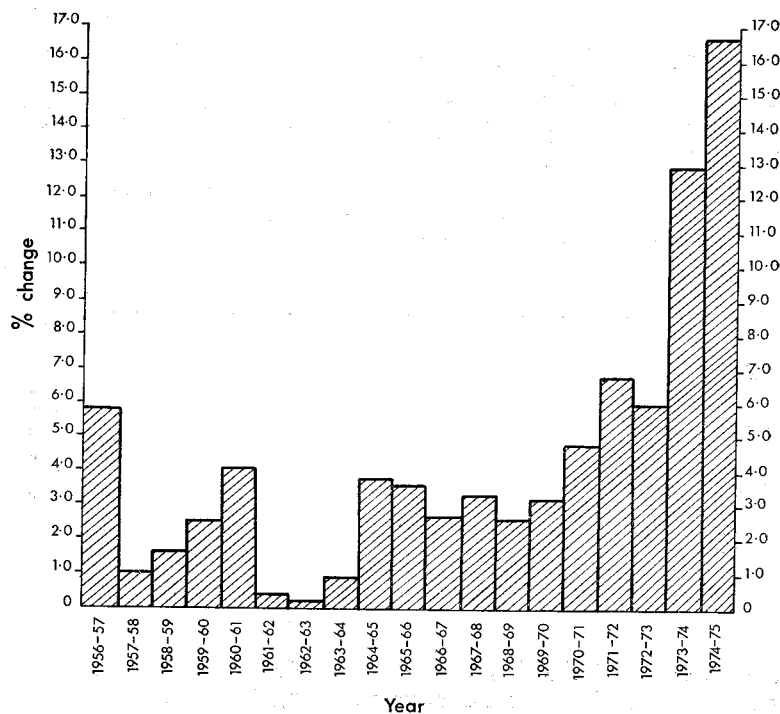
The average retail prices of selected foodstuffs in Hobart since 1955 are shown in the next table. The list, while representative of foodstuffs commonly consumed, is not exhaustive; for a description of foodstuffs in the Consumer Price Index regimen, see the earlier table 'Consumer Price Index, Composition and Weighting Pattern'.

**Average Retail Prices (a): Hobart  
Selected Items of Foodstuffs  
(Cents)**

Article	Unit (a)	1955	1960	1965	1970	1973	1974
Bread (delivered) .. ..	2 lb	12.0	14.2	15.8	21.3	27.0	31.2
Flour (plain) .. .. .	"	9.5	11.8	13.7	17.5	18.8	24.8
Tea .. .. .	$\frac{1}{2}$ lb	36.6	34.2	32.9	30.7	32.3	33.6
Sugar (b) .. .. .	2 kg	33.0	41.0	41.8	49.0	47.9	48.0
Potatoes .. .. .	7 lb	41.2	34.5	69.2	44.9	65.2	96.8
Butter (factory) .. ..	1 lb	43.4	46.9	49.6	55.0	58.0	61.3
Eggs (c) .. .. .	doz	55.8	56.7	61.0	67.7	79.6	94.2
Bacon (rashers) (d) .. ..	1 lb	57.4	68.3	89.2	100.9	104.6	137.3
Milk, bottled, delivered .. ..	qt	16.5	17.3	17.8	20.2	23.8	26.8
Beef—							
Rump steak .. .. .	1 lb	47.4	65.9	79.4	93.9	123.1	145.0
Corned silverside .. ..	"	34.0	44.2	51.6	63.0	79.4	91.3
Mutton—							
Leg .. .. .	"	23.8	24.9	29.8	26.9	42.5	n.a.
Loin chops .. .. .	"	18.9	19.0	25.2	23.8	41.6	n.a.
Pork, leg .. .. .	"	41.8	53.9	61.8	66.8	77.7	99.8

- (a) The table units are not necessarily those for which the original price data were obtained (see notes (b) and (d)). In such cases, prices have been calculated for the table unit.
- (b) Prices obtained for one pound prior to 1966; for four pound packets from 1966; for 2 kg packets from October 1972.
- (c) 'Large' prior to 1964; 'two ounce' eggs from 1964; combinations of 60, 55 and 50 grams weight from July 1972; 60 grams from January 1973.
- (d) Prices obtained for one pound prior to 1966; for half a pound from 1966.

**CONSUMER PRICE INDEX: ALL GROUPS  
WEIGHTED AVERAGE OF SIX STATE CAPITALS COMBINED  
PERCENTAGE CHANGE OVER PRECEDING YEAR**



## Wholesale Price Indexes

*General*

The Bureau compiles several wholesale price indexes of basic materials. These include the 'Wholesale Price Index of Materials used in House Building' and the 'Wholesale Price Index of Materials used in Building other than House Building'. Two other indexes, the 'Melbourne Wholesale Price Index' and the 'Wholesale Prices (Basic Materials and Foodstuffs) Index', were compiled for a number of years but have been discontinued. A new index, the 'Wholesale Price Index of Materials used in the Manufacturing Industry' was first published by the Bureau in July 1975.

*Wholesale Price Index of Materials Used in House Building*

*General:* This index is complementary to the 'Other than House Building' index and measures the change in prices of selected materials used in house construction.

*Scope and Composition:* The materials selected and weights given to the items were in accordance with the usage of materials in a sample of representative house types constructed in or about 1968-69. The house types included in the sample were those using brick, brick veneer, timber or asbestos-cement sheeting for the outer-walls. Within the four major construction types account was taken of a range of characteristics, e.g. material used for internal partitions, window frames, roofs, etc. The number of items included in the index range from 49 (Brisbane) to 51 (Perth). The items are combined into 11 groups; an 'all groups' index is also published. Standards are fixed for items and price movements are for items of a constant quality.

*Derivation of Items and Weights:* The index is a fixed weight index and is calculated by the method known as the 'weighted arithmetic mean of price relatives'. The items and weights used are based on the reported values of materials used in the selected houses in each state capital city urban area. Information about materials used and their value was obtained for a total of 114 houses. The material values derived for each state capital city were then used to develop weighting patterns for the individual cities and aggregated to give a weighting pattern for the six state capital cities combined. The next table gives the weighting pattern for the Hobart index.

Wholesale Price Index of Materials Used in House Building  
Composition and Weighting Pattern: Hobart

Group	Percentage weight of group
Concrete mix, cement and sand .. .. .	7.25
Cement products .. .. .	7.01
Clay bricks, tiles, etc. .. .. .	10.14
Timber, board and joinery .. .. .	38.15
Steel products .. .. .	7.49
Other metal products .. .. .	7.93
Plumbing fixtures, etc. .. .. .	2.74
Electrical installation materials .. .. .	1.61
Installed appliances .. .. .	6.98
Plaster and plaster products .. .. .	4.99
Miscellaneous materials .. .. .	5.71
Total .. .. .	100.00

*Base Period:* The index has a base year 1966-67=100.0 but the weighting pattern is more appropriate to material usage during 1968-69.

**Prices:** Prices relate to specified standards for each commodity and are obtained in all state capital city urban areas from representative suppliers of materials used in house building. The prices are collected as at the mid-point of the month to which the index refers.

**Index Numbers:** The index has been compiled for each month from July 1966 and for financial years from 1966-67. Index numbers are published for each group and combined into an all groups number for each state capital city and the six state capital cities combined.

The following table compares movements in the index numbers for each of the six capital cities and six capitals combined for recent years. (The separate city indexes allow comparisons to be drawn between capital city areas as to differences in the degree of price movement from period to period, but not as to differences in price levels.)

**Wholesale Price Index of Materials Used in House Building**  
**All Groups Index Numbers: Six State Capital Cities**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Year or month	State capital cities						Six capitals (a)	
	Sydney	Mel-bourne	Brisbane	Adelaide	Perth	Hobart	Index number	Percent-age change (b)
1970-71 .. ..	119.8	112.3	115.2	116.7	113.9	114.3	115.7	4.3
1971-72 .. ..	126.1	118.9	124.8	124.8	121.1	120.7	122.7	6.1
1972-73 .. ..	135.6	126.5	133.8	134.8	126.9	130.8	131.1	6.8
1973-74 .. ..	158.0	147.8	152.2	157.2	141.8	145.5	151.3	15.4
1974-75 .. ..	189.4	178.4	187.0	195.4	172.4	179.1	183.4	21.2
1974-75—								
September .. ..	182.3	173.6	179.5	187.3	163.9	169.7	176.6	5.6
December .. ..	189.2	177.4	184.2	193.5	172.2	179.4	182.5	3.3
March .. ..	196.6	182.0	193.7	202.0	178.4	184.3	189.2	3.7
June .. ..	199.6	189.0	202.1	208.8	185.3	193.1	195.1	3.1
PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974								
	16.2	13.2	21.7	17.8	19.5	20.5	16.7	..

(a) Weighted average of six state capital cities.

(b) Over preceding year or preceding month shown.

Index numbers for the Hobart capital city urban area for each group of items are given in the next table:

**Wholesale Price Index of Materials Used in House Building**  
**Group Index Numbers: Hobart**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Year or month	Concrete mix, cement and sand	Cement products	Clay bricks, tiles, etc.	Timber, board and joinery	Steel products	Other metal products
1970-71 .. ..	116.0	114.6	120.6	113.9	116.5	113.7
1971-72 .. ..	123.6	124.2	123.8	120.3	129.2	117.1
1972-73 .. ..	130.7	137.2	140.2	134.6	135.9	118.1
1973-74 .. ..	139.8	147.3	159.2	154.2	150.8	130.9
1974-75 .. ..	157.6	178.6	201.1	192.5	188.7	160.3

**Wholesale Price Index of Materials Used in House Building**  
**Group Index Numbers: Hobart—continued**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Year or month	Concrete mix, cement and sand	Cement products	Clay bricks, tiles, etc.	Timber, board and joinery	Steel products	Other metal products
<b>1973-74—</b>						
September .. ..	139.4	145.7	155.5	143.5	144.6	127.0
December .. ..	139.4	145.7	157.4	154.2	146.3	128.1
March .. ..	139.7	146.0	159.3	157.9	153.8	130.1
June .. ..	142.7	155.9	170.7	175.7	167.1	r 145.4
<b>1974-75—</b>						
September .. ..	146.7	172.7	188.4	180.9	178.9	149.0
December .. ..	156.0	177.7	200.5	193.0	186.0	163.7
March .. ..	164.1	179.3	212.7	195.5	200.0	168.5
June .. ..	173.1	196.4	218.1	208.7	202.8	172.3
<b>PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974</b>						
	21.3	26.0	27.8	18.8	21.4	18.5

**Wholesale Price Index of Materials Used in House Building**  
**Group Index Numbers: Hobart—continued**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Year or month	Plumbing fixtures, etc.	Electrical installation materials	Installed appliances	Plaster and plaster products	Miscellaneous materials	All groups	
						Index number	Percentage change (a)
1970-71 .. ..	123.8	115.9	102.5	108.1	115.5	114.3	6.1
1971-72 .. ..	132.8	120.9	105.8	113.5	123.3	120.7	5.6
1972-73 .. ..	136.8	126.0	107.6	114.2	132.5	130.8	8.4
1973-74 .. ..	145.5	r 146.8	115.3	119.2	141.9	145.5	11.2
1974-75 .. ..	173.2	162.4	130.3	157.0	178.6	179.1	23.1
<b>1973-74—</b>							
September ..	142.5	142.7	113.4	115.2	139.3	139.6	2.6
December ..	142.5	145.0	114.9	119.4	140.0	144.4	3.4
March ..	143.5	146.4	115.3	124.1	142.6	147.2	1.9
June ..	160.9	r 166.8	123.0	124.7	153.6	160.3	8.9
<b>1974-75—</b>							
September ..	167.1	161.4	132.1	148.6	171.4	169.7	5.9
December ..	173.0	162.1	133.3	158.7	178.8	179.4	5.7
March ..	177.5	160.0	128.1	163.6	190.0	184.3	2.7
June ..	182.7	162.4	128.3	175.2	190.9	193.1	4.8
<b>PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974</b>							
	13.5	-2.6	4.3	40.5	24.3	20.5	..

(a) Over preceding year or preceding month shown.

**Wholesale Price Index of Materials Used in Building Other than House Building**

*General:* This was the first of a series of indexes designed to replace the obsolete Wholesale Price (Basic Materials and Foodstuffs) Index. The index measures changes in the prices of selected materials used in the construction of buildings other than houses and 'low-rise' flats (in general, those up to three storeys).

*Scope and Composition:* Composition of the index is in accordance with actual material usage in building projects which were selected as being representative for purposes of determining weighting patterns. Completed values of the types of buildings selected constituted 86 per cent of all completed new buildings other than houses and low-rise flats in the period 1964-65 to 1966-67. Buildings for entertainment, recreation and religious purposes together with buildings in the building statistics category 'miscellaneous buildings' are not directly represented.

The index comprises 72 items combined into 11 groups. Items are described in terms of fixed specifications with the aim of recording price changes for representative materials of constant quality. The group weighting pattern is given in the next table:

**Wholesale Price Index of Materials Used in Building Other Than House Building  
Composition and Weighting Pattern**

Group	Percentage weight of group
Concrete mix, cement, sand, etc. .. .. .	10.41
Cement products .. .. .	3.64
Bricks, stone, etc. .. .. .	5.28
Timber, board and joinery .. .. .	11.90
Steel and iron products .. .. .	30.58
Aluminium products .. .. .	6.01
Other metal products .. .. .	2.59
Plumbing fixtures .. .. .	1.19
Miscellaneous materials .. .. .	7.09
Electrical installation materials .. .. .	8.61
Mechanical services components .. .. .	12.70
Total .. .. .	100.00

*Base Period:* The reference base of the index is the year 1966-67=100.0. The index is a fixed-weights index and is calculated by the method known as the 'weighted arithmetic mean of price relatives'.

*Prices:* Price series used relate to specified standards of each commodity and are obtained in all state capital city urban areas from representative suppliers of materials used in building. In the main they are collected as at the mid-point of the month to which the index refers, or as near thereto as practicable. There are some exceptions to the use of local prices in the indexes for each capital city area. In a few cases where suitable price series are not currently available for an item in a given city, imputation is necessary. For each capital city area, the whole of the group 'electrical installation materials' and the majority of the items in the group 'mechanical services components' are based on Sydney and Melbourne price series.

*Index Numbers:* The index has been compiled for each month from July 1966, and for financial years from 1966-67.

The separate city indexes measure price movements within each metropolitan area individually. They enable comparisons to be drawn between metropolitan areas as to differences in degree of price movement from period to period, but not as to differences in price level. The six state capitals combined index is a weighted average of the individual indexes for each city, weighted on the basis of estimated value on completion of building other than house building in the separate states over a fixed period.

The following table compares movements in the index numbers for each of the six capital cities and the six capitals combined:

**Wholesale Price Index of Materials Used in Building Other Than House Building**  
**All Groups Index Numbers: Six State Capital Cities**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Year or month				State capital cities						Six capitals (a)	
				Sydney	Mel-bourne	Brisbane	Adelaide	Perth	Hobart	Index number	Percent-age change (b)
1970-71	..	..	..	116.4	115.1	116.4	113.9	113.3	115.0	115.5	4.5
1971-72	..	..	..	122.4	123.9	124.4	122.7	121.3	122.6	123.0	6.5
1972-73	..	..	..	127.2	131.2	130.4	129.8	126.3	129.7	128.9	4.8
1973-74	..	..	..	144.1	148.0	149.0	145.8	142.9	143.8	r 145.8	13.1
1974-75	..	..	..	176.0	180.5	186.6	181.0	176.7	179.4	179.2	22.9
1973-74—											
September	..	..	..	137.7	141.3	141.1	139.3	136.4	138.8	139.2	3.2
December	..	..	..	141.3	144.3	146.9	142.6	139.6	140.9	142.8	2.6
March	..	..	..	145.1	149.2	151.0	147.7	145.6	143.8	147.2	3.1
June ..	..	..	..	159.6	165.1	166.8	162.1	158.0	158.8	162.1	10.1
1974-75—											
September	..	..	..	168.2	172.2	177.7	171.6	167.4	169.3	170.8	5.4
December	..	..	..	175.1	179.2	184.9	179.9	174.6	177.7	177.9	4.2
March	..	..	..	182.9	186.6	193.6	188.2	184.7	187.3	186.1	4.6
June ..	..	..	..	185.5	192.5	199.7	192.9	188.4	192.7	190.4	2.3
PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974											
				16.2	16.6	19.7	19.0	19.2	21.3	17.4	..

(a) Weighted average of six state capital cities.

(b) Over preceding year or preceding month shown.

Index numbers for the Hobart urban area for each group of items are given in the following table:

**Wholesale Price Index of Materials Used in Building Other Than House Building**  
**Group Index Numbers: Hobart**  
**(Base of Each Index: Year 1966-67 = 100.0)**

Year or month				Concrete mix, cement, sand, etc.	Cement products	Bricks, stone, etc.	Timber, board and joinery	Steel and iron products	Aluminium products
1970-71	..	..	..	116.0	112.8	118.3	116.6	114.6	106.6
1971-72	..	..	..	123.4	123.7	118.3	122.2	126.4	110.8
1972-73	..	..	..	130.3	138.4	130.1	134.3	133.6	111.8
1973-74	..	..	..	139.3	149.3	150.0	154.6	148.7	117.3
1974-75	..	..	..	157.5	179.5	197.6	191.2	195.0	149.1
1973-74—									
September	..	..	..	138.7	146.0	144.0	145.9	143.2	113.1
December	..	..	..	138.7	147.9	146.4	154.6	144.3	114.0
March	..	..	..	139.0	148.6	149.9	157.8	147.8	118.1
June	..	..	..	142.8	159.9	169.6	173.5	r 166.6	128.8
1974-75—									
September	..	..	..	146.5	174.3	189.4	183.3	183.5	137.0
December	..	..	..	155.6	180.7	198.1	190.5	188.9	151.3
March	..	..	..	163.9	183.0	203.4	193.8	207.6	159.2
June	..	..	..	173.3	191.2	209.3	206.4	211.6	164.8



## Wholesale Price Index of Materials Used in Building Other Than House Building

Group Index Numbers: Hobart—*continued*

(Base of Each Index: Year 1966-67 = 100.0)

Year or month	Concrete mix, cement, sand, etc.	Cement products	Bricks, stone, etc.	Timber, board and joinery	Steel and iron products	Aluminium products
PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974						
	21.4	19.6	23.4	19.0	27.0	28.0

## Wholesale Price Index of Materials Used in Building Other Than House Building

Group Index Numbers: Hobart—*continued*

(Base of Each Index: Year 1966-67 = 100.0)

Year or month	Other metal products	Plumbing fixtures	Miscellaneous materials	Electrical installation materials (a)	Mechanical services components (a)	All groups	
						Index number	Percentage change (b)
1970-71 .. ..	125.3	122.7	111.6	110.9	118.9	115.0	4.8
1971-72 .. ..	126.0	135.1	115.8	114.7	127.5	122.6	6.6
1972-73 .. ..	126.7	142.9	120.2	120.5	132.1	129.7	5.8
1973-74 .. ..	r 150.1	154.0	129.1	138.3	r 143.5	143.8	10.9
1974-75 .. ..	169.0	189.4	161.1	157.4	181.3	179.4	24.8
1973-74—							
September ..	148.3	149.1	127.5	133.6	136.7	138.8	2.9
December ..	149.1	149.1	128.0	136.5	138.1	140.9	1.5
March ..	149.0	152.2	129.3	139.2	142.9	143.8	2.1
June ..	r 162.8	174.1	137.2	153.4	r 163.3	r 158.9	10.4
1974-75—							
September ..	161.8	178.3	147.3	150.5	171.7	169.3	6.6
December ..	171.2	191.4	162.0	157.2	182.6	177.7	5.0
March ..	173.2	195.0	172.8	160.1	187.8	187.3	5.4
June ..	171.1	200.6	176.2	162.9	190.1	192.7	2.9
PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974							
	5.1	15.2	28.4	6.2	16.4	21.3	..

(a) The whole of the group 'Electrical installation materials' and the majority of items in the group 'Mechanical services components' are based on Melbourne and Sydney price series.

(b) Over preceding year or preceding month shown.

## Australian Export Price Index

This index has fixed weights, its purpose being to provide monthly comparisons over a limited number of years of the level of export prices of the selected items, making no allowance for variations in quantities exported. The index numbers are thus measures of price change only. The price series used in the index relate to specific standards for each commodity and in most cases are combinations of prices for a number of representative grades, types, etc. For some commodities, price movements in the predominant market, or markets, are used, while for other commodities average realisations in all export markets are used. As nearly as possible, prices used are on the basis of f.o.b. at the main Australian ports of export.

**Export Price Index Numbers: Australia**  
(Base of Each Index: Year 1959-60 = 100)

Year or month	Wool	Meats	Dairy produce	Cereals	Dried and canned fruits
1970-71 .. .. .	67	152	88	100	102
1971-72 .. .. .	72	147	135	99	103
1972-73 .. .. .	179	178	119	102	106
1973-74 .. .. .	172	201	109	184	152
1974-75 .. .. .	121	132	127	256	177
1973-74—					
September .. .. .	193	225	109	138	135
December .. .. .	186	213	105	144	131
March .. .. .	152	195	108	222	168
June .. .. .	140	160	114	250	170
1974-75—					
September .. .. .	114	148	122	252	171
December .. .. .	120	135	129	262	183
March .. .. .	118	113	132	270	181
June .. .. .	119	126	130	236	165
PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974					
	-15.0	-21.3	14.0	-5.6	-2.9

**Export Price Index Numbers: Australia—continued**  
(Base of Each Index: Year 1959-60 = 100)

Year or month	Sugar	Hides and tallow	Metals and coal (a)	Gold	All groups (b)	
					Index	Percentage change (c)
1970-71 ..	113	94	139	109	101	-2.0
1971-72 ..	127	96	138	126	104	3.0
1972-73 ..	136	139	142	180	134	28.8
1973-74 ..	176	161	196	289	160	19.4
1974-75 ..	378	141	263	391	181	13.1
1973-74—						
September ..	139	163	167	224	152	..
December ..	142	144	182	230	153	0.7
March ..	217	157	218	368	168	9.8
June ..	239	171	238	341	171	1.8
1974-75—						
September ..	429	168	249	347	178	4.1
December ..	528	138	262	446	188	5.6
March ..	421	115	265	436	185	-1.6
June ..	301	118	276	407	178	-3.8
PERCENTAGE CHANGE: JUNE 1975 OVER JUNE 1974						
	25.9	-31.0	16.0	19.4	4.1	..

(a) Does not include iron ore, bauxite, alumina and mineral sands.

(b) In addition to the specified groups, 'All groups index' includes iron ore, bauxite, alumina and mineral sands.

(c) Over preceding year or preceding month shown.

At present a comprehensive review of the composition and weighting of the index is being undertaken. An interim series using weights based on the values of 1969-70 exports has been published from June 1969. The interim series contains four new items (iron ore, bauxite, alumina and mineral sands) which have been incorporated in the 'All Groups' index as shown in the previous table.

## PRICE INDEXES AND INFLATION

### Introduction

Rates of inflation in various countries are often quoted and compared; in Australia the rate of change in the consumer price index over a period (for the six state capital cities combined) is often quoted as being the rate of inflation. However, there is no practical means available for directly and precisely measuring the rate of inflation for any country, as this would entail regular measurement of both the price and volume of *all* goods and services sold and an ability to take into account constantly changing standards, qualities and types of these goods and services. ('Inflation' is generally taken to mean the weighted average rate of increase in the price of all goods, services, equipment, plant, building constructions, etc. marketed in an economy. Its complement is the rate of decline in purchasing power of the currency.) The alternative to *precisely* measuring the rate of inflation is to construct a series of price indexes based on the prices of a group of representative goods and services, with the prices of each item in a group weighted according to its relative importance (volume of sales). Such indexes can only reflect price movements in the particular group of items as a whole and will only do this accurately if the weighting system used reflects average sales patterns. The latter are constantly changing and this necessitates periodic adjustments to the 'weights' if an index is to remain meaningful.

### Retail Price Indexes and Inflation

When a rate of inflation is stated for a particular country, the rate of increase in the official retail price index has usually been quoted. However, any such measure actually relates only to changes in purchasing power with respect to the list of items in the particular index used, combined in their specified proportions. Retail price indexes *do not* measure changes in raw material prices, wholesale prices, industrial plant and equipment costs, etc., and, therefore, cannot be regarded as measuring the upward trend in the overall internal price structure of an economy (i.e. the rate of inflation).

In Australia, the consumer price index is sometimes loosely referred to as a 'cost of living index', but no retail price index measures changes in the cost of living resulting from changes in the mode or standard of living. Changes of that kind are matters for consideration apart from price indexes. Nevertheless, changes in the prices of retail goods and services form a very important part of the change in the 'cost of living' and retail price indexes attempt to measure this part. While retail price indexes may be regarded as indicating the proportionate variations in the cost of a constant standard and mode of living, they do not measure the absolute cost of any standard of living, nor the absolute cost of changes in the standard of living. Persons with different and/or changing standards and modes of living will be affected by changes in prices in varying degrees.

### Other Price Indexes

It is obviously possible to construct a price index based on any selected group of goods, services, etc. Earlier in this chapter, a description and statistics are given for the 'wholesale price index of materials used in house building', the 'wholesale price index of materials used in building other than house building'

and for the 'Australian export price index'. In addition, the Canberra Office of the Bureau publishes details relating to the 'wholesale price index of electrical installation materials' (based on Sydney and Melbourne prices) and the 'wholesale price index of metallic materials' (based on prices charged to Australian manufacturers). In July 1975, the Canberra Office of the Bureau first published the 'wholesale price index of materials used in manufacturing industry' (publication ref. no. 9.13). This constituted a further step in the publication of a range of price indexes of materials used and articles produced by important and defined sectors of the Australian economy. Another new index titled the 'price index of articles produced by manufacturing industry' is expected to be published in 1976. As is the case with the consumer price index, index numbers are provided for groups of items within each index as well as for 'all groups' (index numbers for 'all groups' are the weighted averages of index numbers for the respective groups within an index).

The consumer price index may be useful in certain situations as the best available measure of price changes but quite misleading if used in other applications. For example, it may have little relevance for a particular house builder, who might be more concerned with movements in the 'timber, board and joinery group' of the wholesale price index of materials used in house building. The wholesale price index of materials used in building other than house building would be far more useful to a firm investigating the economics of building (or selling) a new factory than would the consumer price index. Similarly, exporters and importers could be expected to be concerned with price changes in their particular field of operations which might be very different to changes in the retail and certain of the wholesale price indexes.

#### **Price Indexes and Other Statistics**

In times of high inflation, time series expressed in monetary values become difficult to interpret and, to that extent, less useful. For example, a large increase in the value of all building work done over a period may tend to obscure a slowdown in the building industry (if the percentage increase in the value of building work done is less than the rate of price increase for new buildings over the same period). In the case of houses built, the number of houses completed, in conjunction with the value of houses completed, may allow a more realistic assessment of trends. Even numbers are subject to the drawback that they do not reflect changes in style, size or the type of building materials used. In the case of buildings other than houses, numbers completed are virtually useless in assessing trends due to the very large range in size, type and cost of such buildings. The usefulness of a time series showing the value of building work, other than houses, completed during a period of rapid price escalation is obviously enhanced if interpreted in conjunction with the price index series for materials used in building other than house building and appropriate wage rates series.

In many cases, it is an advantage for a particular value series of statistics to be adjusted to values as at a particular base period in accordance with a relevant price index series, in order to be able to assess trends realistically. The Australian Bureau of Statistics adjusts some of its major series so that values are expressed in terms of prices at a base period. This is an attempt to remove from a value series that part of the change which is attributable to changes in price rather than changes in the volume of activity. For example, the quarterly publication 'retail sales of goods' (ref. no. 11.4) published by the Central Office of the Bureau includes a constant (average 1968-69) prices series in addition to the current prices series. The constant prices series is arrived at by using specially constructed price indexes (based mainly on relevant components of the consumer price index) for various commodity groups.

## Comparison of Selected Price Indexes

The first table below shows the varying results obtained when different price index series are used as a measure of the change in prices and of purchasing power. The second table demonstrates the (compounding) effects of a range of constant rates of price increase over a 20-year period. In real life, prices never maintain a constant rate of change and rates of price changes vary widely for different groups of items but this table is still useful for demonstrating the type of effect that results from various rates of price increase.

Selected Price Indexes: Comparison

Year	Consumer price index (a)			Price index of materials used in—				
	Hobart		Six state capital cities combined (all groups)	House building, Hobart (a)	Building other than house building, Hobart (a)	Manufacturing industry, Australia (b)		
	Household supplies and equipment	All groups				Imported materials	All groups	
				All groups	All groups			
INDEX NUMBERS								
1970-71 .. ..	109.2	112.6	114.6	114.3	115.0	102.5	100.1	
1971-72 .. ..	116.4	119.9	122.4	120.7	122.6	104.1	102.6	
1972-73 .. ..	120.3	126.7	129.8	130.8	129.7	105.2	113.9	
1973-74 .. ..	128.3	142.6	146.6	145.5	143.8	127.1	134.7	
1974-75 .. ..	149.2	166.7	171.1	179.1	179.4	181.5	145.1	

PERCENTAGE CHANGE OVER PRECEDING YEAR							
1970-71 .. ..	2.9	3.8	4.8	6.1	4.8	2.0	-2.4
1971-72 .. ..	6.6	6.5	6.8	5.6	6.6	1.6	2.5
1972-73 .. ..	3.4	5.7	6.0	8.4	5.8	1.1	11.0
1973-74 .. ..	6.7	12.5	12.9	11.2	10.9	20.8	18.3
1974-75 .. ..	16.3	16.9	16.7	23.1	24.8	42.8	7.7

PRICE (c) OF AN ARTICLE OR COMMODITY WORTH \$100 IN 1970-71 IF ITS PRICE INCREASED AT THE SAME RATE AS THE RESPECTIVE PRICE INDEX (\$)

1970-71 .. ..	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1971-72 .. ..	106.59	106.48	106.81	105.60	106.61	101.56	102.49
1972-73 .. ..	110.16	112.52	113.26	114.44	112.78	102.63	113.79
1973-74 .. ..	117.49	126.64	127.92	127.30	125.04	124.00	134.57
1974-75 .. ..	136.63	148.05	149.30	156.69	156.00	177.07	144.96

VALUE OF \$1 NOTE EXPRESSED IN TERMS OF 1970-71 VALUES IF THE RESPECTIVE PRICE INDEX IS TAKEN AS A MEASURE OF INFLATION (\$)

1970-71 .. ..	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1971-72 .. ..	.94	.94	.94	.95	.94	.98	.98
1972-73 .. ..	.91	.89	.88	.87	.89	.97	.88
1973-74 .. ..	.85	.79	.78	.79	.80	.81	.74
1974-75 .. ..	.73	.68	.67	.64	.64	.56	.69

(a) Base of each index: year 1966-67 = 100.0.

(b) Base of each index: year 1968-69 = 100.0.

(c) Average price of the article during a particular year.

## The Effect of Various Rates of Price Increase

Number of years from base year	Annual rate of price increase (per cent)					
	5	10	15	20	25	30
PRICE OF AN ARTICLE ORIGINALLY WORTH \$100 (\$)						
0 (base year)	100.00	100.00	100.00	100.00	100.00	100.00
1 .. ..	105.00	110.00	115.00	120.00	125.00	130.00
2 .. ..	110.25	121.00	132.25	144.00	156.25	169.00
3 .. ..	115.76	133.10	152.09	172.80	195.31	219.70
4 .. ..	121.55	146.41	174.90	207.36	244.14	285.61
5 .. ..	127.63	161.05	201.14	248.83	305.18	371.29
10 .. ..	162.89	259.37	404.56	619.17	931.32	1 378.58
15 .. ..	207.89	417.72	813.71	1 540.70	2 842.17	5 118.59
20 .. ..	265.33	672.75	1 636.65	3 833.76	8 673.62	19 004.96
VALUE OF A \$1 NOTE EXPRESSED IN BASE YEAR DOLLAR VALUES (\$)						
0 (base year)	1.00	1.00	1.00	1.00	1.00	1.00
1 .. ..	.95	.91	.87	.83	.80	.77
2 .. ..	.91	.83	.76	.69	.64	.59
3 .. ..	.86	.75	.66	.58	.51	.46
4 .. ..	.82	.68	.57	.48	.41	.35
5 .. ..	.78	.62	.50	.40	.33	.27
10 .. ..	.61	.39	.25	.16	.11	.07
15 .. ..	.48	.24	.12	.06	.04	.02
20 .. ..	.38	.15	.06	.03	.01	.01
PERCENTAGE DECLINE IN VALUE OF A DOLLAR NOTE FROM BASE YEAR						
1 .. ..	4.8	9.1	13.0	16.7	20.0	23.1
2 .. ..	9.3	17.4	24.4	30.6	36.0	40.8
3 .. ..	13.6	24.9	34.2	42.1	48.8	54.5
4 .. ..	17.7	31.7	42.8	51.8	59.0	65.0
5 .. ..	21.6	37.9	50.3	59.8	67.2	73.1
10 .. ..	38.6	61.4	75.3	83.8	89.3	92.7
15 .. ..	51.9	76.1	87.7	93.5	96.5	98.0
20 .. ..	62.3	85.1	93.9	97.4	98.8	99.5

## WAGES

## Basic Wage in Tasmania

## General

The present position is as follows: wages fixed by Tasmanian State Wages Boards still consist of two parts, namely a *basic wage* and a *margin*; wages fixed by the Australian Conciliation and Arbitration Commission are expressed as a *total wage*, the basic wage concept having been abolished in federal awards in 1967. All state industrial authorities with the exception of Victoria's have also retained the basic wage concept. A more detailed history of the basic wage can be found in the 1970 *Year Book*.

## Male Basic Wage Rates from 1953

The following table has been compiled to show the federal basic wage rate operating in Australian capital cities before the decision of 5 June 1967 (when the basic wage concept was eliminated from federal awards):

**Federal Basic Wage: Weekly Rates, Adult Males**  
(£)

Date operative (a)	Sydney	Mel- bourne	Brisbane	Adelaide	Perth	Hobart	Six capital cities
August 1953 ..	24.30	23.50	21.80	23.10	23.60	24.20	23.60
June 1956 ..	25.30	24.50	22.80	24.10	24.60	25.20	24.60
15 May 1957 ..	26.30	25.50	23.80	25.10	25.60	26.20	25.60
21 May 1958 ..	26.80	26.00	24.30	25.60	26.10	26.70	26.10
11 June 1959 ..	28.30	27.50	25.80	27.10	27.60	28.20	27.60
7 July 1961 ..	29.50	28.70	27.00	28.30	28.80	29.40	28.80
19 June 1964 ..	31.50	30.70	29.00	30.30	30.80	31.40	30.80
11 July 1966 ..	33.50	32.70	31.00	32.30	32.80	33.40	32.80

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

*Female Basic Wage Rates from 1953*

The following table summarises the federal basic wage applicable to females from 1953. Prior to 1950, female basic wage rates had been approximately 54 to 56 per cent of male rates but the Court of Conciliation and Arbitration in its judgment in December of that year fixed the relativity at 75 per cent which was maintained until the elimination of the federal basic wage in 1967.

**Commonwealth Basic Wage Rate, Hobart: Adult Females**  
(£)

Date operative (a)	Weekly rate	Date operative (a)	Weekly rate	Date operative (a)	Weekly rate
August 1953 ..	18.15	21 May 1958 ..	20.00	19 June 1964 ..	23.55
June 1956 ..	18.90	11 June 1959 ..	21.15	11 July 1966 ..	25.05
15 May 1957 ..	19.65	7 July 1961 ..	22.05	5 June 1967 ..	(b)

(a) Rates operative from the beginning of the first pay-period commencing in the month shown or commencing on or after the date shown.

(b) Abolition of federal basic wage; see later section headed 'Equal Pay Legislation'.

*State Basic Wage Rates*

The following table shows the awards and determinations made by state industrial authorities after the basic wage was abolished in federal awards in June 1967:

**State Basic Wage Rates Prior To and After Abolition of Federal Basic Wage**  
(£)

Date of operation (a)	Adult males	Adult females	Date of operation (a)	Adult males	Adult females
TASMANIAN BASIC WAGE: HOBART					
1966 11 July ..	33.40	25.05	1972 19 May ..	41.00	31.90
1967 1 July ..	34.40	26.05	1973 29 May ..	43.50	34.40
1968 25 October ..	35.75	27.40	1974 23 May ..	46.00	36.90
1969 19 December ..	36.80	28.20	1975 15 May ..	47.70	38.20
1971 1 January ..	39.00	29.90			

**State Basic Wage Rates Prior To and After Abolition of Federal Basic Wage—continued**  
(**\$**)

Date of operation (a)	Adult males	Adult females	Date of operation (a)	Adult males	Adult females
<b>NEW SOUTH WALES BASIC WAGE: SYDNEY</b>					
1966 11 July ..	33.50	25.10	1971 1 January ..	39.10	30.00
1967 1 July ..	(b)	(b)	1972 19 May ..	41.10	32.00
1968 1 January ..	34.50	26.10	1973 29 May ..	44.40	35.10
1968 25 October ..	35.85	27.45	1974 23 May ..	47.80	38.50
1969 19 December	36.90	28.30	1975 15 May ..	49.50	40.20
<b>QUEENSLAND BASIC WAGE: BRISBANE</b>					
1966 23 May ..	32.70	24.55	1973 29 May ..	44.20	34.90
1967 10 April ..	33.20	24.90	1973 27 August ..	44.80	35.35
1967 3 July ..	(b)	(b)	1973 26 November	46.60	36.70
1968 28 October ..	35.55	27.25	1974 11 March ..	48.20	37.90
1969 22 December	36.65	28.05	1974 27 May ..	49.40	38.80
1971 4 January ..	38.85	29.75	1974 2 September ..	51.20	40.15
1972 29 May ..	41.00	31.85	1975 26 May ..	54.40	42.55
1973 19 February ..	42.30	32.85			
<b>SOUTH AUSTRALIAN LIVING WAGE: ADELAIDE</b>					
1966 11 July ..	32.30	24.20	1972 19 May ..	39.85	31.00
1967 3 July ..	33.30	25.20	1973 29 May ..	43.15	34.10
1968 28 October ..	34.65	26.55	1974 23 May ..	46.50	37.30
1969 22 December ..	(b)	(b)	1975 15 May ..	48.20	38.60
1971 4 January ..	37.85	29.00			
<b>WESTERN AUSTRALIAN BASIC WAGE: PERTH</b>					
1966 2 August ..	33.26	24.95	1970 26 October ..	38.45	29.40
1966 24 October ..	33.50	25.13	1972 26 June ..	40.45	32.40
1967 1 July ..	(b)	(b)	1973 8 June ..	44.00	36.00
1968 25 October ..	(b)	(b)	1973 17 September	44.00	39.00
1968 22 November ..	35.45	27.08	1974 31 May ..	48.50	43.50
1969 24 November ..	36.45	27.88			
<b>VICTORIAN BASIC WAGE: MELBOURNE</b>					
1966 11 July ..	32.70	24.50	1967 1 July.. ..	(c)	(c)

(a) Rates operative from the first pay-period commencing on or after the date shown.

(b) Special loadings (N.S.W., \$1; Qld, \$1; S.A., 3 per cent; W.A., \$0.60 from 1.7.67 and a further \$1.35 from 25.10.68) were added to award rates but later absorbed into the basic wage.

(c) Basic wage and margins deleted from determinations; subsequently rates expressed as total wages.

### Minimum Wages

The Australian Conciliation and Arbitration Commission announced in its decision of 8 July 1966 that it intended to grant relief to low wage earners by inserting a provision prescribing a minimum wage. It ordered that the minimum male wage paid under the Metal Trades Award should be the appropriate basic wage plus \$3.75 a week (e.g. in Tasmania a basic wage of \$33.40 plus \$3.75 giving a minimum wage of \$37.15).



Tasmanian Wages Boards introduced the concept of the minimum wage into their determinations in June 1967. Weekly minimum wage rates prescribed in federal and State awards for recent years are shown in the following table:

Minimum Wages, Adult Males: Federal and State Awards  
(\$)

Date operative (a)	Federal awards	Tasmanian State Wages Boards determinations
25 October 1968 .. .. .	39.50	40.45
19 December 1969 .. .. .	43.00	43.00
1 January 1971 .. .. .	47.00	47.00
19 May 1972 .. .. .	51.70	51.70
29 May 1973 .. .. .	60.70	60.70
23 May 1974 .. .. .	68.70	68.70
1 January 1975 .. .. .	76.70	76.70
15 May 1975 .. .. .	80.70	80.70

(a) Rates operative from the first pay-period commencing on or after the date shown.

### Recent State Wages Boards Margins Reviews

#### Review of Margins 1973

Employee representatives at the 1973 'test case' based their claims for an increase on the continuing erosion of margins and the fact that tradesmen were seeking alternative jobs with higher remuneration. The chairman agreed that substantial wage increases had been granted to employees in a wide range of industries and that the incidence of over-award payments was lower in Tasmania than in any other state; a possible cause of industrial unrest. An increase of 20 per cent was awarded to all tradesmen classified under the Building Trades' Wages Board Determination which was also applied to margins in determinations of other Wages Boards. The increases became effective from the first pay period commencing on or after 20 June 1973.

#### Review of Margins 1974

**Test Case:** A conference of representatives of both employers and employees was held on 8 May 1974 to hear arguments for and against an increase in tradesmen's margins. A claim for an increase of \$20.00 per week was made by representatives of the tradesmen.

**Argument:** Employee representatives on behalf of the Building Trades' Wages Board claimed that an increase was necessary because the building trades in Tasmania, who had been campaigning for a \$20.00 per week increase, were solely dependent on the State Wages Board for wage adjustments and desired to remain in that position. It was also stated that most labourers in the building industry were subject to federal awards and had recently received a flat increase of \$15.00 per week. It was also argued that there had been a deterioration in relativities between tradesmen and builders' labourers. The employers, in their submissions, referred to the high level of industrial disputes which had occurred during the preceding twelve months and said that many wage increases granted during this period had been as a result of duress and were not wholly justified. The employers also pointed out that it was less than twelve months since the last adjustment of tradesmen's margins and this factor should be taken into account before new awards were handed down.

*Determination:* The chairman of the State Wages Board said in his decision that he based his award largely on that of the Metal Industries, handed down earlier in the year. The chairman, in commenting on erosion of relativities, very strongly attacked the system of flat rate wage increases and again awarded a percentage increase. However, he stated that the previous calculation of tradesmen's margins based on declining relativities, due to substantial movements in the margins of semi-skilled workers, would not be used. Instead an approximation of the amount of \$15.00, which had flowed to many employees under federal awards, was expressed as a percentage of the current standard margin for a base tradesman.

An increase of 36 per cent was awarded to all tradesmen engaged in trades which came under the jurisdiction of the State Wages Board. The increase became effective from the first pay period commencing on or after 8 May 1974.

There was no test case for the review of tradesmen's margins in 1974-75.

### Total Wage Concept

For a full account of events leading to the adoption of a 'total wage' concept see the 1970 *Year Book*. The decision, abolishing the basic wage in awards of the Australian Conciliation and Arbitration Commission, was handed down in June 1967 when a \$1.00 increase was awarded, to be added to the *total wage*. Results of recent national wage cases follow:

- 1972 The Commission increased the total wage by \$2.00 per week and raised the minimum wage by \$4.70 per week.
- 1973 The total wage was increased by a combination of a two per cent increase to which was added a flat increase of \$2.50. The minimum wage was increased by \$9.00 per week.
- 1974 The Arbitration Commission again increased total award rates by a combination of a two per cent increase plus a flat rate increase of \$2.50. The minimum wage was increased by \$8.00 per week.
- 1975 The 1975 national wage case is outlined in a later section.

### Total Wage Concept in Tasmania

The federal award of June 1967 was followed by a test case argued before the Chairman of the State Wages Boards. The employers asked for adoption of the total wage concept. The unions opposed this and argued for a \$7.30 increase in the basic wage; if a lesser amount was determined, then a *minimum total wage* of \$40.70 should nevertheless be fixed.

The decision in the test case (Electrical Trades) was that both male and female rates should be increased by \$1; the increase, however, should be regarded as *raising the basic wage* which would be retained for the present in State determinations. The State Wages Boards have retained the basic wage and margins concepts in awards handed down following subsequent national wage case determinations of the Australian Conciliation and Arbitration Commission.

*State Wages Boards Decision, 1975:* A meeting of all wages boards was convened to determine variations to the State basic wage and minimum wage following the April 1974 National Wage Case. Representatives from the Tasmanian Employers' Federation and Tasmanian Trades and Labour Council appeared at the hearing, which was held under the 'common rule' provisions of the *Wages Boards Act*. The determination increased: (i) the basic wage for adult males and females by 3.6 per cent to \$47.70 (males) and \$38.20 (females); (ii) the minimum wage for adult males by \$4.00 to \$80.70.

### National Wage Case 1974-1975

The Australian Conciliation and Arbitration Commission began hearing the National Wage Case in December 1974 at which claims were made for an increase in the minimum wage, an increase in total wages and for the introduction of wage indexation. The minimum wage claim was dealt with as a separate item in keeping with the Commission's decision during the preceding national wage hearing, to review the minimum wage after six months. Trade unions and the Australian Government supported an increase in the minimum wage while employers opposed any increase on the grounds that the minimum wage had ceased to have any meaning as a concept and should be allowed to lapse. The Commission maintained the view that the minimum wage was ' . . . a desirable floor, below which the wage actually paid to any employee for ordinary time shall not fall '.

The Commission held, however, that no changes were warranted in award rates of pay above the minimum wage. An increase of \$8.00 was granted in the minimum wage, to take effect from the beginning of the first pay period to commence on or after 1 January 1975.

The hearing re-commenced in January 1975 with unions seeking wage indexation by means of quarterly adjustments based on: (i) movements of the Consumer Price Index; (ii) an increase in the total wage on account of productivity and some Consumer Price Index movements prior to the March 1975 quarter; and (iii) for a further increase in the minimum wage combined with indexation. The Commission's decision on the above matters was handed down on 30 April 1975.

#### *Employees' Case*

The trade unions put forward the argument that the granting of their claims would ' . . . at one and the same time meet the requirements of equity, good industrial relations and economic recovery '. They blamed the restrictions in the money supply as the chief cause of unemployment and economic recession and maintained that by granting indexation the Commission would be assisting in reducing the extent of overall wage demands while at the same time reducing industrial unrest.

#### *Employers' Case*

The private employers opposed the submission put forward by the unions and claimed that economic recovery depended on the need for a restoration of profitability. Constant increases in award wages were blamed for the current economic difficulties and if wage rises were not curtailed a further decline in productivity was envisaged. These submissions, with the exception of minimum wage claims, were supported by the states of New South Wales, Victoria, Queensland and Western Australia. No submission was made regarding the minimum wage. The states of South Australia and Tasmania together with the Australian Government gave qualified support to union claims.

#### *Commission's Views*

The Commission dealt with the National Wage Case under three headings: (i) Indexation; (ii) Total Wage; and (iii) Minimum Wage.

*Indexation:* This was the principal issue involved in the National Wage Case and time taken up in evidence and argument was considerably more than that taken up in the 1974 conference concerning wage indexation. The Commission dealt with indexation by considering whether it should be approved, what form it should take, and, if approved, when it should be introduced.

The Commission indicated that although its doubts concerning some aspects of indexation had not been removed by submissions from the unions, there had been a marked change of attitude by both the A.C.T.U. and the Australian Government regarding wage fixation. In the 1974 hearing the Government had given open-ended support to wage indexation but now proposed specific conditions which should accompany it. The A.C.T.U. proposed that if indexation was introduced the Commission should control the majority of wage increases which would not be sought on an industry basis.

Under these circumstances the Arbitration Commission decided to introduce indexation subject to certain operating conditions which would have to be observed in order to make the functioning of wage indexation a viable proposition.

The Commission pointed out that since the introduction of the total wage concept it had ' . . . consciously and deliberately adopted a flexible approach to the form of national wage increases—flat rate, uniform percentage and a combination of both have been applied—in the light of industrial, social and economic considerations'. The Commission therefore intended to treat wage indexation with the same flexibility as had been applied in the past.

The Commission stated that although it was mindful of the need to curb costs, particularly with a continuing decline in the seasonally adjusted unemployment rate during March 1975, it would be unrealistic to allow real wages to fall because of an increase in the March quarter Consumer Price Index. It was proposed therefore to introduce indexation based on the March quarter movement of the Consumer Price Index. It was proposed to sit again following publication of the June quarter Index to hear submissions regarding future adjustments.

In summary it was proposed by the Commission that adjustments would be made in the following way:

- (i) Award wages and salaries would be adjusted each quarter in relation to the movement of the immediately preceding quarter's Consumer Price Index for the six state capitals.
- (ii) The Commission would sit in April, July, October and January, following publication of the Consumer Price Index, to hear submissions regarding indexation.
- (iii) Adjustments made should operate from the beginning of the pay period commencing on or after the 15th of the month following publication of the Consumer Price Index.
- (iv) The form of indexation would be determined each quarter by the Commission depending on economic circumstances and submissions by parties, but an increase of less than 2 per cent in any one quarter should be applied fully to all award rates.
- (v) No adjustment would be made for any quarter where the movement in the Consumer Price Index was less than 1 per cent.
- (vi) The Commission would consider each year whether to increase the total wage on account of productivity.

The only other grounds justifying wage increases should be changes in work values and catching-up community movements.

*Total Wage:* The Commission held that no increase was justified before applying indexation because of the large increase in real wages during 1974 and also because of a reduction in personal income tax rates.

*Minimum Wage:* The Commission rejected the concept of a mathematical formula for purposes of calculating the minimum wage and deferred the question of an increase due to productivity until later in the year. An increase was granted after taking into account movement in the March quarter Consumer Price Index.

### *The Award*

All ordinary award rates and rates for leading hands were increased by 3.6 per cent representing the total movement of the Consumer Price Index for the six capitals from the December 1974 quarter to the March 1975 quarter. The minimum wage was increased by \$4.00. These increases became effective from the beginning of the first pay period to commence on or after 15 May 1975. Variations resulting from the award were to operate for a period of three months.

## **Equal Pay Legislation**

### *Introduction*

The concept of 'equal pay' achieved partial recognition in some Australian states because occupations exist in which men and women perform work which is identical (e.g. teaching, medical practice, etc.); such identity has given rise to industrial claims based on the principle of 'equal pay for equal work'. The logic of such occupational situations was ignored in the past and it was not until 1950 that the Australian Court of Conciliation and Arbitration fixed the female basic wage at 75 per cent of the male rate (it had previously been as low as 54 or 56 per cent). With regard to margins, there was no universal rule but, in the Australian Government Public Service, for example, certain female employees received the same margin as males, but only the female basic wage.

### *N.S.W. Legislation (1959)*

The first acceptance of the principle of equal pay for equal work came in N.S.W. in 1959 when the *Industrial Arbitration Act* was amended to provide equal pay for males and females under certain circumstances. If the Industrial Commission or a Conciliation Committee was satisfied that male and female employees under an award were performing identical work, it was to prescribe the same margin for males and females. The basic wage was to be adjusted to equal the male rate in annual five per cent increments spread over the period 1959-1963.

### *Tasmanian Legislation (1966)*

In Tasmania the approach to the problem was different in that the Parliament in 1966 passed legislation affecting only employees in the public sector. The *Public Service (Equal Pay) Act* 1966 applied to those employed by the State Government or employed by state authorities, e.g. the teaching service, the police force, the railway service, etc. The Act required that wage-fixing authorities had to be satisfied in any application, that certain female employees were performing 'work of the same or a like nature and of equal value'. If this was established, then the authority was required to fix the same margins for all employees, irrespective of sex. This still did not give equal pay, due to the lower female basic wage. Accordingly the Act provided for annual five per cent increments in the female basic wage until equality with the male rate was reached in 1972.

### *National Wage Cases*

In awarding the \$1 increase to both males and females in 1967, the Australian Conciliation and Arbitration Commission departed from the principle of maintaining a 75 per cent ratio between the male and female basic wage. This was done deliberately and the Commission's pronouncement in June 1967 referred to

the eventual possibility of equal pay for equal work. In all subsequent national wage cases the Commission has granted uniform quantum or percentage increases to males and females.

#### *Teachers' Case, 1968*

In June 1968 the Public Service Tribunal ruled that Tasmanian women teachers employed by the State were performing work of the same or a like nature and of equal value. Generally women teachers were already receiving the same margins as men so the effect of the Tribunal's decision was to increase the base rate component of their salary to 80 per cent of the male base rate, with effect from 23 May 1968. (The female base rate, \$25.05, was 75 per cent of the male base rate, \$33.40.) In accordance with the Act, the base rate for females was steadily advanced until it equalled the male rate in 1972.

#### *State Employees Receiving Equal Pay*

Since the June 1968 Teachers' determination, equal pay has been extended to all areas where the work performed by male and female employees is of the same or similar nature and of equal value.

#### *National Equal Pay Case 1969*

Two benches of the Conciliation and Arbitration Commission handed down a joint decision on the National Equal Pay Case on 19 June 1969. The decision was important as, for the first time, the Commission accepted in principle the concept of 'equal pay for equal work'. However, equal pay was not to be granted automatically; equality of work had to be proved before an increase was granted to female workers.

*Conclusions:* Acceptance of the concept of 'equal pay for equal work' implied the elimination of discrimination based on sex alone. However, before equal pay was granted equality of work had to be established.

*Principles to be Applied:* The Commission stated that it would be necessary for a separate examination to be made of each determination and award in respect of the awarding of equal pay, and suggested that certain clearly defined principles should be applied in deciding these applications.

Where the Arbitrator or the Commissioner was satisfied that equal pay should be awarded, the Commission considered that the implementation of such a decision should be on a progressive basis over four years as follows (provided that no female rates should be reduced by operation of this formula):

#### *Equal Pay Case Decision, 19 June 1969*

Date of operation	Amount of female rate
Beginning of first pay-period to commence on or after—	
1 October 1969 .. .. .	85%
1 January 1970 .. .. .	90%
1 January 1971 .. .. .	95%
1 January 1972 .. .. .	100%
	} of the male rate at that date

#### *Equal Pay: Metal Trades Award*

In February 1970 the Australian Conciliation and Arbitration Commission granted equal pay to adult female process workers employed under the federal Metal Trades Award. The determination was that rates for adult females were set at: (i) from first pay-period commencing on or after 23 February 1970, 90 per cent of male rates; (ii) from 1 January 1971, 95 per cent of male rates; (iii) from 1 January 1972, the same as male rates. On 25 March 1970 the equal pay provisions were extended to include junior females.

### *National Wage and Equal Pay Case 1972*

On 15 December 1972 the Australian Conciliation and Arbitration Commission enunciated a new principle in its National Wage and Equal Pay Case decision, of 'equal pay for work of equal value' to be used when determining female wage rates. The adoption of the new principle, to be applied to both adult and junior female wage awards, requires that female rates be determined by work value comparisons without regard to the sex of the employees concerned. The principle may be applied by either agreement or arbitration.

### *National Wage Case 1974*

In the 1974 National Wage Case the Australian Conciliation and Arbitration Commission decided to extend the minimum wage provisions to adult females. Adult females were awarded 85 per cent of the minimum adult male rate; the proportion increased to 90 per cent by 30 September 1974 and to 100 per cent by 30 June 1975.

## **Weekly Wage Rates in Tasmania**

### *Definitions*

In this section, 'weekly wage rates' is used as a short title for '*weighted average minimum weekly wage rates*'. The rates are those applicable to adult males and adult females, and are those fixed in *awards*.

The minimum wage is the lowest rate payable for a particular occupation. This minimum rate may be expressed as: (i) a total wage (e.g. in awards of the Australian Conciliation and Arbitration Commission); (ii) a basic wage plus secondary wage payments, i.e. additional amounts for skills, loadings, etc. (e.g. in awards of state wage-fixing authorities except Victoria); or (iii) in agreements registered with federal or state wage-fixing authorities. The introduction of varying federal and state practices relating to 'total' and 'basic' wages from time to time has not affected the continuity of the statistical series.

*Weighting:* To arrive at a weighted average rate for a particular field (e.g. rate for occupations in Tasmania covered by federal awards) certain data are required. The basic initial information is the award rate applying to each occupation and its relative significance (broadly, the numbers in each occupation). The calculation of average minimum rates is based on the occupational structure existing in 1954.

The individual minimum wage rates, combined to give the averages shown in the tables, are those for representative occupations within each industry.

Since the aim is to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc., which relate solely or mainly to salary-earners are excluded.

Weighted averages of the components of the total minimum weekly wage rate (i.e. basic wage, margin and loading) are calculated separately for adult male employees covered by federal awards, etc., and for those covered by state awards, etc.

*'Federal Awards, etc.'*: These include awards of, or agreements registered with, the Australian Conciliation and Arbitration Commission, and determinations of the Australian Government Public Service Arbitrator.

*'State Awards, etc.'*: These include awards or determinations of, or agreements registered with, state industrial tribunals, together with certain unregistered agreements, where these are dominant in the particular industries to which they refer. (In Tasmania the principal tribunals are the State Wages Boards.)

'Basic Wage Rates': These are weighted averages of the weekly rates prescribed in awards, etc., for the occupations included in the calculation. For industries other than mining, metropolitan basic wage rates have generally been used. However, there are a number of occupations for which basic wage rates other than the metropolitan rate are prescribed. In all such cases, the basic wage rate actually paid is used in the tables. As a result, the weighted average basic wage shown in this section differs from the Hobart basic wage appearing elsewhere.

'Margins': These are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for special features such as skill, experience, arduousness or other like factors.

'Loadings': These include industry loadings and other general loadings prescribed in awards, etc., for the occupations included in the calculation. Loadings that are not applicable to all workers in a specified award occupation (for example, those payable because of length of service; working in wet, dirty or confined spaces, etc.) are not included in the calculation.

### Male and Female Rates

The following table summarises weekly wage rates for adult males and adult females in Tasmania from 1959 onwards. The averages include federal and State awards, etc., and are for all industry groups combined.

**Weighted Average Minimum Weekly Wage Rates (a)**  
**Adult Males and Adult Females: All Groups**  
**(\$)**

End of December—	Adult rate		End of December—	Adult rate	
	Male	Female		Male	Female
1959 .. ..	34.71	23.42	1967 .. ..	45.31	31.62
1960 .. ..	35.15	23.88	1968 .. ..	48.98	33.46
1961 .. ..	36.27	24.82	1969 .. ..	52.00	36.94
1962 .. ..	36.48	24.83	1970 .. ..	r 54.49	38.17
1963 .. ..	37.29	25.21	1971 .. ..	60.86	44.35
1964 .. ..	39.69	27.04	1972 .. ..	r 67.18	49.07
1965 .. ..	40.73	27.94	1973 .. ..	r 76.80	r 61.16
1966 .. ..	43.27	29.80	1974 .. ..	105.61	91.96

(a) Weighted average minimum weekly rates payable for a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

*Limitation:* The wage rates shown in the tables in this section should not be regarded as actual current averages, but rather as indexes expressed in money terms, indicative of trends. The wage rates do not measure the relative level of minimum wages as between states.

Minimum weekly wage rates for adult males are not comparable with 'average weekly earnings per employed male unit' appearing in a later section of this chapter; the latter includes not only the earnings of adult wage-earners but also those of salaried employees, junior wage-earners and part-time and casual employees; included also are over-award payments and overtime earnings.

### Rates in Industry Groups

Tasmanian details by industry group are given in the next table:



**Weighted Average Minimum Weekly Wage Rates and Index Numbers  
Adult Males and Adult Females: Industry Groups, 31 December 1974**

Industry group	Adult males		Adult females	
	Rates of wage (\$)	Index numbers (a)	Rates of wage (\$)	Index numbers (a)
Mining and quarrying .. .. .	115.12	407.6	..	..
Manufacturing—				
Engineering, metals, vehicles, etc. ..	103.82	367.6	97.62	490.4
Textiles, clothing and footwear .. ..	87.57	310.1	76.96	386.6
Food, drink and tobacco .. .. .	100.59	356.2	93.07	467.5
Sawmilling, furniture, etc. .. .. .	99.29	351.6	79.86	401.2
Paper, printing, etc. .. .. .	106.44	376.9	97.20	488.2
Other manufacturing .. .. .	97.33	344.6	..	..
All manufacturing groups .. .. .	101.17	358.2	86.52	434.6
Building and construction .. .. .	105.28	372.8	..	..
Railway services .. .. .	101.49	359.4	108.65	545.8
Road and air transport .. .. .	108.00	382.4	..	..
Shipping and stevedoring .. .. .	117.26	415.2	..	..
Communication .. .. .	127.26	450.6	110.24	553.8
Wholesale and retail trade .. .. .	108.32	383.6	97.59	490.2
Public authority (n.e.i.) and community and business services .. .. .	113.17	400.7	95.96	482.0
Amusement, hotels, personal service, etc. ..	92.82	328.7	85.03	427.1
All industry groups .. .. .	105.61	374.0	91.96	461.9

(a) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0.

### Index Numbers

The following table shows, in summary form, the index numbers for adult male and adult female weighted average minimum weekly wage rates in Tasmania from 1968:

**Weighted Average Minimum Weekly Wage Rates: Index Numbers, All Groups  
Adult Males and Adult Females**

End of December—	Index numbers (a)		End of—	Index numbers (a)	
	Male	Female		Male	Female
1968 .. .. .	173.4	168.1	December 1973 ..	r 271.9	r 307.2
1969 .. .. .	184.1	185.6	March 1974 ..	275.8	318.4
1970 .. .. .	192.9	191.7	June 1974 ..	337.5	383.3
1971 .. .. .	215.5	222.8	September 1974 ..	356.8	420.0
1972 .. .. .	237.9	246.5	December 1974 ..	374.0	461.9

(a) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0

### Components of Weekly Wage Rates (Male)

The next table shows the adult male weighted average minimum weekly rate, according to its federal and State award elements, for Tasmania. The State award element is shown in its component parts (basic wage, margin and loading). However, adoption of the total wage concept in June 1967 precludes a similar dissection of federal awards.

**Weighted Average Minimum Weekly Wage Rates, End of December (a)**  
**Components of Wage Rates, All Groups: Adult Males**  
**(\$)**

Particulars	1969	1970 <i>r</i>	1971	1972 <i>r</i>	1973	1974
Federal awards .. ..	51.48	53.61	60.46	67.06	<i>r</i> 76.31	105.09
State awards, etc.—						
Basic wage .. ..	36.80	39.98	39.00	41.00	43.50	46.00
Margin .. ..	13.93	13.17	19.74	23.46	<i>r</i> 32.27	59.36
Loading .. ..	2.07	1.50	2.75	2.90	<i>r</i> 1.92	2.35
Total .. ..	52.80	54.65	61.49	67.36	<i>r</i> 77.69	107.71
All awards .. ..	52.00	54.49	60.86	67.18	<i>r</i> 76.80	105.82

(a) For a full week's work (excluding overtime) as prescribed in awards, determinations, etc.

### Australian Rates

In the next table, rates and index numbers are shown for each Australian state:

**Australia: Weighted Average Minimum Weekly Wage Rates (a): All Groups, Adult Males**

End of December—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
RATES OF WAGES (\$)							
1969 .. ..	52.38	51.74	51.91	50.76	50.69	<b>52.00</b>	51.86
1970 .. ..	54.40	53.68	55.07	52.12	55.99	<i>r</i> <b>54.49</b>	54.20
1971 .. ..	61.70	61.40	62.91	59.38	61.98	<b>60.86</b>	61.56
1972 <sub>r</sub> .. ..	68.11	67.86	68.42	65.82	66.15	<b>67.18</b>	67.71
1973 <sub>r</sub> .. ..	78.13	77.42	79.82	75.20	75.66	<b>76.80</b>	77.69
1974 .. ..	105.12	105.15	109.16	103.30	101.04	<b>105.82</b>	105.26
INDEX NUMBERS (b)							
1969 .. ..	185.5	183.2	183.8	179.7	179.5	<b>184.1</b>	183.6
1970 .. ..	192.6	190.1	195.0	184.6	198.2	<b>192.9</b>	191.9
1971 .. ..	218.5	217.4	222.8	210.3	219.5	<b>215.5</b>	218.0
1972 <sub>r</sub> .. ..	241.2	240.3	242.3	233.1	234.2	<b>237.9</b>	239.8
1973 <sub>r</sub> .. ..	276.7	274.1	282.6	266.3	267.9	<b>271.9</b>	275.1
1974 .. ..	372.2	372.3	386.5	365.8	357.8	<b>374.7</b>	372.7

(a) For a full week's work (excluding overtime), as prescribed in awards, determinations, etc.

(b) Base of index numbers: weighted average minimum weekly wage rate, Australia, 1954 = 100.0.

### Hourly Wage Rates in Tasmania

#### General

Hourly wage rates is the short title for '*weighted average minimum hourly rates payable*'. The concept is completely analogous to that embodied in weighted average minimum weekly wage rates and the calculation is similarly based on rates prescribed in awards or determinations of federal and state industrial authorities or in agreements registered with them.

#### Definitions

*Hours of Work:* In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages of hourly rates.

Rural industry is excluded from the calculation of weighted average minimum weekly wage rates and also from the calculation of weighted average minimum hourly wage rates. In addition, the shipping and stevedoring group is also excluded from the latter calculation since definite particulars for the computation of hourly wage rates are not available.

The 40-hour week has operated in Australia generally from 1 January 1948 (N.S.W., from 1 July 1947). Nevertheless the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or states. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and agreements for a full working week, in respect of adult male workers in all industry groups except rural, and shipping and stevedoring, at 30 June 1974, were: N.S.W., 39.77; Victoria, 39.96; Queensland, 39.88; S.A., 39.95; W.A., 39.83; Tasmania, 39.91; Australia, 39.86. Corresponding figures for adult female workers at 30 June 1974, were: N.S.W., 39.53; Victoria, 39.81; Queensland, 39.70; S.A., 39.77; W.A., 39.78; Tasmania, 39.63; Australia, 39.67.

*Weekly Wage Rate Definitions:* Apart from exclusion of the shipping and stevedoring industry, the definitions in the section headed 'weekly wage rates' apply with equal force to the calculation of hourly wage rates.

### Summary of Details

The following table shows, for Tasmania, weighted average minimum hourly wage rates for adult male and adult female workers in all industries (except rural, and shipping and stevedoring) since 1939:

Weighted Average Minimum Hourly Wage Rates, All Groups  
Adult Males and Adult Females

End of—	Rates of wage		Index numbers (a)	
	Males (b)	Females (c)	Males (b)	Females (c)
	\$	\$		
December—1939 .. .. .	0.2095	n.a.	29.6	n.a.
1945 .. .. .	0.2642	n.a.	37.3	n.a.
1950 .. .. .	0.4952	n.a.	70.0	n.a.
1955 .. .. .	0.7371	0.5056	104.2	100.8
1960 .. .. .	0.8808	0.6037	124.5	120.3
1965 .. .. .	1.0211	0.7052	144.3	140.6
1968 .. .. .	1.2288	0.8444	173.7	168.3
1969 .. .. .	1.2955	0.9323	183.1	185.8
1970 .. .. .	1.3550	0.9632	191.5	192.0
1971 .. .. .	1.5192	1.1191	214.7	223.1
1972 .. .. .	1.6591	1.2385	234.5	246.9
September—1973 .. .. .	1.8808	1.4851	265.8	296.0
December—1973 .. .. .	1.9010	1.5435	268.7	307.6
March—1974 .. .. .	1.9303	1.5997	272.8	318.9
June—1974 .. .. .	2.3580	1.9256	333.3	383.8
September—1974 .. .. .	2.5027	2.1102	353.7	420.6
December—1974 .. .. .	2.6286	2.3207	371.5	462.6

(a) Base of index numbers: weighted average hourly wage rate, Australia, 1954 = 100.0.

(b) All industry groups except rural, and shipping and stevedoring.

(c) All industry groups except rural, mining and quarrying, and building and construction.

*Labour, Prices and Wages*  
**Average Weekly Earnings in Tasmania**

*Source of Data*

The figures in the following section are derived from particulars of employment and of wages and salaries recorded on pay-roll tax returns, from other direct collections and from estimates of the unrecorded balance. (In general, businesses with pay-rolls of less than \$3 467 per month are exempt from pay-roll tax and do not need to supply monthly details of employment and of wages and salaries. Prior to 1 January 1975 the exemption limit was \$1 734 per month.) Pay of members of the defence forces is not included.

*Definitions*

*'Employed Male Unit'*: This is a special unit devised to overcome the difficulty that particulars of wages and salaries are not available separately for males and females. (The basic data available are the number of males, the number of females and the total pay-roll only.) The number of females is converted to a *lesser equivalent number* of males by taking into account the approximate ratio of female to male earnings; a divisor for deriving average 'male' earnings is then obtained by adding the actual number of males to the calculated number of 'male equivalents'. The divisor so obtained is called 'employed male units'.

From 1 September 1966, the series has been revised using separate ratios of male to female earnings for each state. (The ratio used for Tasmania is 64 per cent; for calculating Australian figures a weighted average of the six states of approximately 63.0 per cent is used.)

*Components of Pay-roll*: Pay-roll includes, in addition to wages at award rates, the earnings of salaried employees, overtime earnings, over-award and bonus payments, allowances, commissions, directors' fees, and payments made in advance or retrospectively (e.g. advances of annual leave pay). Included also are the wages and salaries, not only of adults, but also of juniors; the earnings may relate to full-time, part-time or casual workers.

*Invalid Comparison*: Average earnings per employed male unit cannot be compared with male weighted average minimum weekly wage rates shown in the previous section. Weighted average minimum weekly wage rates relate to award rates for adult male wage earners in non-rural industry for a full week's work, at the end of each month or year; the average weekly earnings per employed male unit are derived from the pay-roll concept outlined in the previous paragraph, and obviously cover a wider field of earnings and of wage and salary earners.

*Seasonal Influence*: Quarterly figures are affected by seasonal influences. Comparisons as to trends are generally best made by relating complete years or corresponding periods of incomplete years. Alternatively, a 'seasonally adjusted' series may be used. Seasonally adjusted estimates (i.e. original data subjected to seasonal adjustment factors to remove the sudden influence of major changes in awards and determinations and of the effects of pay-day variations) are shown in the graph which follows the next table.

*Annual and Quarterly Details*

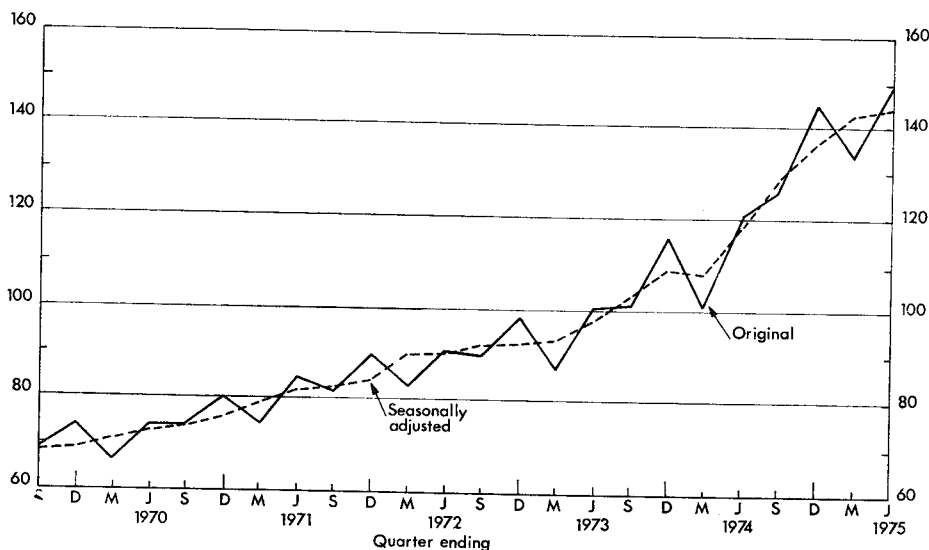
The following tables show, for Tasmania and Australia, average weekly earnings per employed male unit; the figures are arranged both as quarterly and annual averages:

## Average Weekly Earnings Per Employed Male Unit (a)

Year	Average for quarter ending— (\$)				Average for year	
	September	December	March	June	Amount (\$)	Percentage change (b)
1969-70 ..	69.00	74.10	66.30	74.30	70.90	7.9
1970-71 ..	74.40	80.40	74.60	84.70	78.50	10.7
1971-72 ..	82.10	90.00	83.70	91.30	86.80	10.6
1972-73 ..	90.30	98.80	87.60	100.90	94.40	8.8
1973-74 ..	101.70	116.10	101.50	<i>r</i> 120.40	<i>r</i> 110.20	16.7
1974-75 ..	126.40	145.30	134.00	148.80	139.60	26.7

(a) For definitions, see earlier section headed 'Definitions'.

(b) Over preceding year.

AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT  
QUARTERLY AVERAGES, TASMANIAAustralia: Average Weekly Earnings Per Employed Male Unit (a)  
(\$)

Year or quarter	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia (b)	
							Amount	Percentage change (c)
1969-70 .. ..	78.50	78.40	69.40	70.30	75.70	<b>70.90</b>	76.30	8.4
1970-71 .. ..	87.30	86.40	78.00	77.20	84.90	<b>78.50</b>	84.80	11.1
1971-72 .. ..	95.90	93.60	87.00	85.30	93.70	<b>86.80</b>	93.00	9.7
1972-73 .. ..	104.30	102.50	97.00	93.00	99.00	<b>94.40</b>	101.50	9.1
1973-74 <i>r</i> .. ..	121.00	118.40	112.60	110.60	115.50	<b>110.20</b>	118.00	16.3
1974-75 .. ..	151.90	148.10	142.20	140.50	146.90	<b>139.60</b>	148.30	25.7

**Australia: Average Weekly Earnings Per Employed Male Unit (a)—continued**  
(\\$)

Year or quarter	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia (b)	
							Amount	Percentage change (c)
1971—June .. ..	92.40	91.50	82.70	80.90	90.00	<b>84.70</b>	89.80	..
December .. ..	99.20	96.60	89.30	87.20	96.30	<b>90.00</b>	96.00	6.9
1972—June .. ..	99.70	97.40	91.40	88.20	94.40	<b>91.30</b>	96.70	0.7
December .. ..	107.40	105.50	98.70	94.70	99.30	<b>98.80</b>	104.10	7.7
1973—June .. ..	110.90	107.90	103.50	99.10	104.90	<b>100.90</b>	107.80	3.6
December .. ..	123.00	120.90	114.10	110.90	115.00	<b>116.10</b>	119.90	11.2
1974—June .. ..	131.60	127.80	123.70	121.90	126.10	<b>120.40</b>	128.50	7.2
December .. ..	158.20	155.30	148.60	143.80	147.90	<b>145.30</b>	154.20	20.0
1975—June .. ..	160.10	154.30	149.50	145.40	156.20	<b>148.80</b>	155.90	1.1
PERCENTAGE CHANGE: JUNE QUARTER 1975 OVER JUNE QUARTER 1974								
	21.7	20.7	20.9	19.3	23.9	<b>23.6</b>	21.3	..

(a) For definitions, see section headed 'Definitions'.

(b) Includes the Northern Territory and the Australian Capital Territory.

(c) Over the preceding year or preceding quarter shown.

### Survey of Weekly Earnings, May 1971

For the results of this survey see the 1973 edition of the *Year Book*.

### Surveys of Weekly Earnings and Hours

#### *General*

Sample surveys in respect of most employers in the private sector subject to pay-roll tax have been conducted annually during recent years by the Bureau as at the last pay-period in October. In 1972, for the first time, government employees were included in the survey. The results of the surveys are based on returns from stratified random samples of private employers subject to pay-roll tax; non-government hospitals not subject to pay-roll tax; local government authorities; and for all Australian and state government departments, authorities and semi-government bodies. For Australia as a whole the 1973 survey covered approximately 2 772 000 male and 1 364 000 female wage and salary earners, comprising 1 918 000 males and 1 049 000 females in private employment and 854 000 males and 315 000 females in government employment.

#### *Definitions*

**Weekly Earnings:** Gross earnings before taxation and other deductions have been made; includes overtime earnings, ordinary time earnings, shift allowances, penalty rates, commission and similar payments; and that part of paid annual leave, paid sick leave, long service leave and paid holidays taken during the specified pay-period. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly. Retrospective payments are excluded.

**Juniors:** Those under 21 years of age not paid adult rates (but 'adults' may include those under 21 years receiving adult rates).

**Full-time Employees:** Employees who ordinarily work 30 hours or more a week and who received pay for the last pay-period in October.

## Results of Surveys

The next table shows for Tasmania for the private and government sectors: (i) average weekly earnings; (ii) average weekly hours paid for; and (iii) average hourly earnings.

Average Earnings and Hours: All Industry Groups (a)

Particulars	October 1973 (b)	
	Private employment (c)	Government employment (c)
AVERAGE WEEKLY EARNINGS (\$)		
Adult males .. .. .	106.20	110.90
Junior males .. .. .	54.00	59.10
Adult females .. .. .	68.90	98.20
Junior females .. .. .	45.60	52.50
AVERAGE WEEKLY HOURS PAID FOR		
Adult males .. .. .	42.3	40.3
Junior males .. .. .	40.7	39.2
Adult females .. .. .	39.1	38.0
Junior females .. .. .	39.5	38.5
AVERAGE HOURLY EARNINGS (\$)		
Adult males .. .. .	2.51	2.75
Junior males .. .. .	1.32	1.51
Adult females .. .. .	1.78	2.53
Junior females .. .. .	1.16	1.36

(a) Excludes rural industry and private domestic services.

(b) Last pay-period in October.

(c) Excludes managerial, executive, professional and higher supervisory staff. Full-time employees only included.

Average Weekly Overtime and Ordinary Time Earnings, Private and Government Employment, (a) October 1973 (\$)

Particulars	Average weekly overtime earnings		Average weekly ordinary-time earnings		Average weekly total earnings	
	Private	Government	Private	Government	Private	Government
Adult males—						
Manufacturing—						
Founding, engineering, vehicles, etc. .. ..	14.50	n.a.	102.90	n.a.	117.50	n.a.
Other .. .. .	14.90	n.a.	86.30	n.a.	101.10	n.a.
Total manufacturing ..	14.80	6.70	91.40	90.10	106.20	96.70
Non-manufacturing ..	12.00	6.10	94.30	105.40	106.30	111.50
All industry groups	13.40	6.10	92.80	104.80	106.20	110.90
Junior males, all industry groups .. .. .	3.20	1.80	50.70	57.30	54.00	59.10
Females, all industry groups—						
Adult .. .. .	2.90	1.30	66.00	96.90	68.90	98.20
Junior .. .. .	1.30	0.70	44.30	51.80	45.60	52.50

(a) Average for all employees represented in industry groups but excluding managerial, executive, professional and higher supervisory staff. Full-time employees only included.

## Minimum Wage Rates, Selected Occupations, Hobart

The following table shows minimum wage rates for selected occupations as prescribed by Federal and State awards, agreements and various determinations (both registered and un-registered) operative at 31 December in recent years. Unless specified, rates shown in the following table are for a 40-hour week. Increases reflect various margin adjustments.

Selected Minimum Wage Rates, Adult Males and Females: Hobart  
(\$)

Industry and occupation	31 December		
	1972	1973	1974
ADULT MALES			
Primary production—			
Farming (general), general hand (a) .. .. .	51.70	60.70	80.70
Grazing, shearer (per 100 flock sheep) (b) .. .. .	22.63	31.36	45.00
Mining and quarrying—			
Coal mining (c), miner (machine) (d) .. .. .	70.60	78.60	113.55
Quarrying, labourer .. .. .	52.90	66.50	93.00
Engineering, metals, vehicles, etc.—			
Engineering—Fitter or turner .. .. .	71.50	78.40	106.80
Toolmaker .. .. .	76.90	83.90	112.40
Textiles, clothing and footwear—			
Clothing trades (readymade), tailor .. .. .	65.40	75.30	93.40
Footwear, maker .. .. .	57.90	66.60	85.40
Textiles—Knitting, knitter .. .. .	57.40	67.10	83.10
Woollen, weaver .. .. .	54.70	63.80	79.70
Food, drink and tobacco—			
Aerated waters and cordials, general hand .. .. .	53.70	63.30	86.30
Bacon curing, boner .. .. .	77.50	89.20	120.60
Bread baking, doughmaker .. .. .	79.00	91.00	123.50
Brewing, general hand .. .. .	54.15	63.25	88.37
Butter, cheese and milk processing, butter maker .. .. .	59.60	73.20	106.20
Confectionery, confectioner (group 1) .. .. .	65.70	75.60	103.70
Jam, fruit and vegetable preserving, general hand .. .. .	55.00	66.80	95.70
Meat industry—Labourer (beef, mutton) .. .. .	56.90	71.10	99.30
Slaughterman (mutton) .. .. .	81.30	93.80	127.90
Sawmilling, furniture, etc.—			
Sawmilling and timber yards—Machinist (A grade) .. .. .	68.60	79.60	110.90
Sawyer (circular) .. .. .	57.60	67.90	97.40
Paper, printing, etc.—			
Printing (general)—Bookbinder .. .. .	74.50	82.50	106.70
Machine compositor .. .. .	79.90	88.00	112.30
Printing (newspapers)—Machine compositor (day work) .. .. .	98.90	104.90	145.80
Machine compositor (night work) (e) .. .. .	107.90	113.90	154.80
Other manufacturing—			
Brickmaking, drawer .. .. .	58.10	61.80	95.80
Electricity generation and supply, electrical fitter .. .. .	76.40	83.30	111.70
Building and construction—			
Building (f)—Bricklayer, roof tiler .. .. .	90.30	106.53	137.90
Builder's labourer, skilled .. .. .	74.56	89.10	119.30
Builder's labourer, unskilled .. .. .	65.89	79.90	110.10
Carpenter .. .. .	91.12	107.66	139.05
Electrician (installation) (g) .. .. .	79.10	90.10	119.30
Plasterer .. .. .	90.30	106.53	137.90
Painter .. .. .	90.19	106.37	137.75
Plumber (g) .. .. .	74.90	92.10	127.80
Railway services—			
Traffic—Locomotive engine driver .. .. .	83.55	90.65	123.65
Porter .. .. .	57.25	63.85	91.85



**Selected Minimum Wage Rates, Adult Males and Females: Hobart—continued**  
( \$ )

Industry and occupation	31 December		
	1972	1973	1974
<i>ADULT MALES—continued</i>			
Road and air transport—			
Road transport, motor truck driver (over 1.2 tonnes to 3.0 tonnes) .. .. .	70.50	78.40	107.90
Tramways and buses, bus driver (one-man operator) ..	72.50	82.50	111.00
Shipping and stevedoring—			
Shipping (cargo vessels), able seaman (b) (i) .. ..	<i>n.a.</i>	153.37	163.52
Stevedoring, wharf labourer (per hour) (j) .. ..	2.24	2.51	3.40
Communication—			
Post Office, postman .. .. .	69.05	81.66	111.16
Wholesale and retail trade—			
Butchers, general butcher .. .. .	74.60	85.60	105.30
Petrol service stations, attendant .. .. .	51.70	60.70	80.00
Retail stores, shop assistant (grocery) .. .. .	52.10	62.20	85.90
Wool stores, wool classer .. .. .	71.30	87.20	91.40
Public authority (n.e.c.), community and business services—			
Hospitals, orderly .. .. .	55.54	68.06	102.48
Other services—Graduate engineer .. .. .	96.71	104.15	140.13
Graduate scientist .. .. .	89.02	103.65	129.44
Amusement, hotels, personal services, etc.—			
Hairdressing, hairdresser (men's) .. .. .	66.50	82.20	109.40
Hotels (k), barman .. .. .	57.60	71.50	98.70
Restaurants (k) cook (one cook only employed) ..	59.00	71.70	93.00
Watchmen, cleaners, etc., office cleaner (day) .. ..	56.90	60.70	103.20
<i>ADULT FEMALES</i>			
Textiles, clothing and footwear—			
Dry cleaning, presser .. .. .	62.20	72.00	90.10
Order dressmaking, machinist .. .. .	46.50	60.00	82.40
Readymade dressmaking, table hand or coat machinist ..	46.50	58.90	81.30
Textiles—Knitting, machinist .. .. .	44.10	57.50	77.60
Woollen, weaver .. .. .	43.80	58.00	78.10
Food, drink and tobacco—			
Confectionery, general hand .. .. .	41.00	54.30	82.40
Jam, fruit and vegetable preserving, general hand ..	42.00	57.90	95.70
Transport and communication—			
Post office, telephonist (l) .. .. .	59.48	79.92	104.88
Wholesale and retail trade—			
Retail stores—Shop assistant (confectionery) .. ..	43.00	53.10	82.70
Shop assistant (drapery) .. .. .	51.00	62.20	85.90
Public administration and community and business services—			
Australian Public Service, typist (m) .. .. .	64.70	80.99	105.99
Hospital nurses (qualified), first year .. .. .	69.80	77.40	117.80
Amusement, hotels, personal service, etc.—			
Cleaners, office cleaner (day) .. .. .	47.80	51.40	100.20
Hairdressing, hairdresser .. .. .	51.85	70.05	102.05
Hotels (k), barmaid .. .. .	57.60	70.40	97.60
Restaurants (k), waitress .. .. .	43.20	55.60	79.40
Theatres, usherette, ticket-taker, etc. (l) .. .. .	46.10	52.50	93.90

- (a) 44-hour week. (b) Rates shown are 'not found rates'. Shearers' hours of work are 40 per week. (c) In addition to the rate shown, an attendance allowance is payable for each full fortnightly pay-period worked. (d) 35-hour week. (e) 38-hour week. (f) Rates shown are weekly equivalents of hourly rates. They include allowances for excess fares, travelling time, sick leave, statutory holidays, following the job, etc. (g) Weekly rates prescribed for a full week's work (excluding overtime). (h) Includes an allowance valued at \$6.50 per week for keep and accommodation. (i) Rates shown are for 40 hours of work; seamen are required to work eight hours per day. (j) Rates shown are for casual wharf labourers on other than special cargo work. (k) Weekly cash payments where board and lodging are not provided. (l) 36-hour week. (m) 36½-hour week.

**WAGE-FIXING AUTHORITIES****Tasmanian State Wages Boards***History*

The evolution of the Tasmanian Wages Boards system is described in the 1968 *Year Book*. The following sections describe the present wages boards situation.

*Constitution*

A wages board is set up for the common trade, industry or profession of each employers' group (e.g. Building Trades, including employers of painters, glaziers, signwriters, etc.). On each board, of which there are about 70, the employers and the employees have equal representation; one board (Electrolytic Zinc) has eight representatives for each, while the smallest have only two representatives for each. The *Wages Boards Act* 1920 was amended in 1961 to provide for a full-time government-appointed chairman.

*Members of Boards*

*Qualification for Board Membership:* Following the 1970 amendments a person may be appointed to membership of a State wages board if: (i) he is an employer, manager or employee engaged in the particular trade; (ii) he has had twelve months' experience, gained within five years immediately preceding appointment, of managing a corporate body engaged in the industry and is authorised by the particular body to accept appointment; (iii) he is an officer of an association which includes members engaged in the relevant trade; or (iv) he is an officer of the Tasmanian Trades and Labour Council. The provisions of the 1970 amending Act: (i) permit an officer of an association connected with more than one trade to be appointed to a board; and (ii) recognise service in associations connected with the trade as experience in the trade. Not more than half of the employer or employee representatives on a board are to be specialists, i.e. representatives from employers' associations or trade unions. (If the number of representatives is an odd number the next even number is used to determine the maximum number of specialists who may sit on the board.) The Crown, as an employer, is not represented on the wages boards. Any member who either: (i) ceases to be engaged in the trade covered by the wages board; or (ii) ceases to be an officer of an association connected with the trade and is not otherwise qualified for membership, is required to vacate his seat on the wages board.

*Nomination and Appointment of Board Members:* The 1970 amendments make provision for nomination of board members by: (i) employer and employee organisations; and (ii) individual employers and employees. Special provisions apply to officials of the Tasmanian Trades and Labour Council. If the number of nominees falls short of the positions to be filled, the Minister may select and appoint the necessary additional persons. When the number of nominees exceed the number of vacant positions, the Minister selects the representatives from the nominees received. The Minister's decision is final. (Previous provisions for elections in the above two cases were repealed.)

*Board Meetings and Proceedings*

When a quorum is not present the Chairman is required to adjourn proceedings for not less than half an hour, and if at the end of this interval a quorum is not present, the powers of the board can be exercised by a majority of the members (including the Chairman) present.

*Role of Chairman*

The Chairman's chief power at meetings of boards derives from the fact that he has a casting vote; he wields no arbitral power but is enjoined, when there is equal division between the representative members, to do all things (' . . . whether by adjourning . . . by making suggestions, consulting with members . . . or otherwise . . . ) needed to obtain agreement of the board, before deciding the matter at issue on his casting vote. From the meeting's recorded decisions, the Chairman drafts a statement of the amended wage-rates, allowances and conditions; this is known as a determination and upon gazettal becomes law.

The Chairman may also determine any matter placed before him by a majority of the board members. In such cases his determination is regarded as a decision of the Board. Further powers were given to the Chairman under the common rule amendments contained in the 1970 Act.

*Common Rule Determinations*

Section 11 of the *Wages Boards Act 1970* contained the following important amendment to the principal Act:

'25B—(1) On application being made to the Minister by—

- (a) an organisation of employers; or
- (b) the body known as the Tasmanian Trades and Labour Council,

for making a determination under this section in relation to a matter referred to in the application, the Minister may refer the application to the Chairman for determination.'

The Chairman may only make common rule determinations in respect to the following matters: (i) basic wage; (ii) minimum wage; (iii) standard hours of work; (iv) paid leave of absence; and (v) a matter, determined in an award under a federal Act, which affects or relates to 10 or more trades for which State wages boards have been appointed. Determinations under this provision apply to all boards affected by the particular matter.

Before making a 'common rule determination' the Chairman is required to: (i) confer with persons engaged in the relevant trades as he thinks necessary; and (ii) in his determination give due consideration to these persons' opinions.

When the common rule determination provisions are not or cannot be applied, the matter may be heard as a test case.

*Test Cases*

On occasion, issues are raised which do not fall within the scope of a common rule determination but which obviously have wide implications, e.g. general margins claims. The meeting of the particular wages board raising the issue may be adjourned and a wider conference convened at which all major employer and employee groups are represented. The question can then be argued as one affecting a number of boards, or often all boards, but the final outcome is a determination affecting the particular wages board which raised the issue. This determination then sets the pattern for the variation of determinations of other wages boards. An amendment to the Act in 1966 provides for the variation of a wages board determination by written application of all representative members, if the Chairman approves; this obviates the need for many formal meetings and also allows the outcome of test cases to be speedily adopted in the determinations of all boards.

*Powers and Functions of the Boards*

A board may determine any industrial matter in relation to the trade for which it has been appointed. Included in the matters which it may determine are: wage rates; hours of work; leave (other than long service leave); the date from which any determination becomes effective; privileges, rights and duties of employers and employees; the mode, terms and conditions of employment. The boards may not determine matters relating to: (i) opening and closing hours; (ii) bonus payments; (iii) superannuation schemes; and (iv) engagement, dismissal or reinstatement of any particular class of employees.

Wages boards' determinations are now binding upon the Crown.

*Industrial Disputes*

Under the Act, the Minister may call a compulsory conference for the purpose of settling or preventing industrial disputes. Industrial disputes are defined in Section 16 of the 1970 Act as:

- '(a) a matter in respect of which a board is authorised by this Act to make a determination; or
- (b) the engagement, dismissal, or reinstatement of any particular employee or particular class of employees.'

Those summoned may include not only the direct participants, but also other persons connected in industrial matters which bear on the dispute or, even more broadly, any persons at all whose attendance may help a settlement. By an amendment of the Act in 1960 the conference Chairman has the power to make a written order directing certain action to be taken if he considers it will prevent or settle the dispute; recipients of such orders are bound to comply, the penalty for ignoring an order being \$200.

The compulsory conference is presided over by a person appointed by the Minister but, in practice, the Chairman of Wages Boards is generally given this conciliatory role.

**Tasmanian Public Service Board***General*

Legislation passed in 1973 established two new industrial authorities, the Public Service Board and Public Service Arbitrator (for details see the next section) to deal with awards, working conditions, etc., for employees of the State Government and certain State authorities. The Public Service Board comprises three Commissioners appointed by the Governor for terms not exceeding five years. One of the three Commissioners is appointed Chairman of the Board. In addition to members of the State Public Service the Board's jurisdiction includes persons employed in the teaching service, police force, parliamentary staff positions, public hospitals, non-academic staff of the College of Advanced Education, the railway service and various State authorities.

*Industrial Functions*

The Public Service Board may make awards covering wages, salaries and conditions of work for employees falling within its jurisdiction. A main function of the Board is determining 'principal awards', i.e. an award which covers all employees within the scope of a particular group such as administrative and clerical officers. The determining of a principal award involves a complete review

of the wages and salaries and other work conditions of all positions within the scope of the particular award. The Board, under the *Public Service Act 1973*, when determining a principal award may cover any or all of the following:

- '(a) Determining the scales of salaries for grades, divisions, and occupational groups of employees, and for sub-divisions of those grades, divisions, and occupational groups;
- (b) Determining the ordinary hours of work, and the period to be worked before overtime rates become payable, and the rates of remuneration and conditions in respect of minimum earnings, overtime, travelling time, shiftwork, night-work, and special duty, and in respect of work on Saturdays, Sundays and holidays and at any other time outside the ordinary hours of duty;
- (c) Determining minimum rates of pay for adult employees and for married employees;
- (d) Determining the rates of relieving, travelling, mileage, proficiency, lodging, and meal allowances and expenses and the terms and conditions on which they may be granted and paid;
- (e) Determining tool allowances, clothing allowances, and other allowances in the nature of additional pay for classes or conditions of work warranting the payment thereof;
- (f) Determining the terms and conditions on which industrial clothing shall or may be issued;
- (g) Determining the basis and method of adjustment of salaries in order to meet variations in the cost of living, and prescribing the tables, scales or figures with reference to which those adjustments shall be made;
- (h) Determining the cases in which and conditions on which deductions shall be made from salaries on account of quarters, fuel, light, power, board, and other facilities and amenities provided for employees and the rates of those deductions and the basis on which they shall be calculated; and
- (i) Determining and regulating the qualifications (including educational qualifications) required for advancement from a grade or division to a higher grade or division'.

Unless revoked, a principal award is effective for three years, however, during the currency of the principal award it may be amended by the Board to eliminate anomalies, errors or defects contained in the award, or to incorporate determinations of the Australian Conciliation and Arbitration Commission (e.g. national wage case decisions, etc.).

#### The Tasmanian Public Service Arbitrator

The *Public Service Act 1973*, in addition to creating the Public Service Board, also established the position of Public Service Arbitrator. The Public Service Arbitrator, appointed by the Governor for a term not exceeding five years, has the same area of jurisdiction as the Public Service Board. Applications to the Arbitrator for arbitration on awards may be made where the Public Service Board has: (i) refused an application for an award; (ii) made an award (including an award to supplement a consent award); (iii) allowed three months or longer to elapse after an application has been made for an award without (a) refusing

the application or (b) making an award (including a consent award). Such applications are lodged with the registrar and the Arbitrator, after he has been satisfied that the applicant is entitled to apply for arbitration, arranges to hear the applicant and others affected by the award. After hearing and considering an application the Arbitrator may: (i) refuse the application; (ii) confirm the award or any of its provisions; (iii) direct the Board to vary the award by omitting, altering or adding to the award's provisions; or (iv) where it has refused or failed to make an award, to make an award in specified terms.

The Public Service Arbitrator has an additional function of reviewing individual salary classifications made by any controlling authority following the handing down of any new principal award. Applications for consideration of particular salary classifications may be made by any registered employee organisation in respect of any office or position held by any of its members. In addition, the *State Employees (Long-Service Leave) Act* 1950 was amended on 19 September 1974, to provide a new section for the settlement of any dispute as to whether or when an employee is or has become entitled to leave of absence or an allowance in lieu, or whether a deceased employee's personal representative is or has become entitled to payment of an allowance. The section stipulates that the Public Service Arbitrator shall hear and determine all such disputes.

### Industrial Disputes

Statistics of industrial disputes refer only to those involving a stoppage of work of 10 man-days or more. The information is compiled from the following sources: (i) direct from employers and trade unions; (ii) reports from government departments and authorities; (iii) reports from state and federal industrial authorities; and (iv) information contained in trade journals, newspapers, etc. Particulars of some stoppages are estimated and the following statistics should be regarded as giving only a broad measure of industrial stoppages.

Industrial Disputes (a)

Year					Disputes	Workers involved	Working days lost	Estimated loss in wages
					no.	'000	'000	\$'000
1967	..	..	..	..	29	6.2	7.3	82.3
1968	..	..	..	..	28	7.8	13.0	149.0
1969	..	..	..	..	44	8.7	9.9	115.3
1970	..	..	..	..	66	14.8	32.2	451.1
1971	..	..	..	..	46	14.7	20.6	317.3
1972	..	..	..	..	48	15.2	19.2	305.1
1973	..	..	..	..	63	17.5	140.1	2 322.4
1974	..	..	..	..	79	33.6	88.5	(b)1 800.9

(a) Involving a stoppage of 10 man-days or more.

(b) The estimated Tasmanian loss was 1.4 per cent of the Australian total in 1974.

The record estimated loss in wages due to industrial disputes (involving stoppages of 10 days or more) in 1973 (\$2 322 400) represented an average loss of \$133 per worker for the 17 500 workers involved. The average loss per worker involved in 1974 was \$54. Details relating to the value of production lost as a direct result of industrial disputes are not available.

The following table analyses industrial disputes according to the industry of the labour force involved:

## Industrial Disputes by Industries

Period	Mining	Manufacturing						Construction
		Metal products, machinery and equipment	Textiles, clothing, footwear	Food, beverages, tobacco	Paper and paper products, printing and publishing	Other	Total manufacturing	
NUMBER OF DISPUTES								
1971 .. ..	14	5	6	2	..	2	15	9
1972 .. ..	6	7	3	2	6	3	21	7
1973 .. ..	16	6	2	7	2	2	19	3
1974 .. ..	10	6	5	7	7	5	30	8
1974—								
March qtr	2	2	3	2	1	2	10	..
June qtr ..	2	..	1	2	1	2	6	3
Sept. qtr ..	4	2	..	1	2	..	5	4
Dec. qtr ..	2	2	1	2	3	1	9	1
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)								
1971 .. ..	2.4	2.8	5.0	0.4	..	..	8.2	2.5
1972 .. ..	2.2	7.8	0.8	0.2	1.1	0.1	10.0	0.5
1973 .. ..	2.8	1.8	1.4	4.2	2.7	..	10.1	0.2
1974 .. ..	0.8	5.7	4.2	4.5	3.9	0.1	18.5	6.7
1974—								
March qtr ..	0.1	3.8	3.0	1.9	1.2	..	9.8	..
June qtr ..	0.2	..	..	0.8	..	0.1	1.0	1.9
Sept. qtr ..	0.4	1.8	..	0.9	0.1	..	2.9	4.7
Dec. qtr ..	0.1	0.1	1.1	0.9	2.6	..	4.8	..
WORKING DAYS LOST ('000)								
1971 .. ..	5.0	4.3	5.2	0.4	..	0.2	10.0	4.2
1972 .. ..	4.0	5.9	1.9	0.8	1.5	0.3	10.4	2.0
1973 .. ..	35.4	20.1	16.4	5.5	39.7	0.3	81.9	0.7
1974 .. ..	4.0	45.5	3.7	6.1	12.8	2.6	70.6	7.5
1974—								
March qtr ..	0.6	44.5	2.3	3.8	3.6	..	54.3	..
June qtr ..	2.2	0.2	0.2	0.6	0.2	2.2	3.4	2.9
Sept. qtr ..	1.1	0.4	..	1.2	0.8	0.2	2.6	3.0
Dec. qtr ..	0.2	0.4	1.1	0.5	8.2	..	10.3	1.5
ESTIMATED LOSS IN WAGES (\$'000)								
1971 .. ..	102.3	59.7	56.0	4.8	..	2.4	122.9	73.3
1972 .. ..	72.9	88.0	24.8	11.2	24.3	3.1	151.4	39.5
1973 .. ..	726.7	357.8	174.0	69.3	640.7	3.4	1 245.1	12.2
1974 .. ..	97.1	927.4	60.8	106.2	281.2	59.1	1 434.7	164.1
1974—								
March qtr ..	10.0	908.4	36.8	64.7	57.6	0.8	1 068.2	..
June qtr ..	53.0	3.7	3.1	10.7	2.7	51.9	72.0	61.8
Sept. qtr ..	26.9	6.9	..	20.3	15.2	5.4	47.8	66.5
Dec. qtr ..	7.3	8.5	20.9	10.6	205.7	1.0	246.6	35.9

## Industrial Disputes by Industries—continued

Period	Railway transport, air transport	Road transport, other transport and storage, communication	Water transport		Entertainment, recreation, hotels, personal service, etc.	Other industries (a)	Total all industries
			Stevedoring services	Other water transport			
NUMBER OF DISPUTES							
1971 .. ..	1	..	4	2	..	1	46
1972 .. ..	3	4	3	1	..	3	48
1973 .. ..	3	4	2	3	1	12	63
1974 .. ..	3	4	8	2	3	11	79
1974—							
March qtr ..	1	..	3	..	..	1	17
June qtr ..	1	2	4	2	3	2	25
Sept. qtr ..	..	2	1	..	..	4	20
Dec. qtr ..	1	..	..	..	..	4	17
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)							
1971 .. ..	0.2	..	1.3	0.1	..	..	14.7
1972 .. ..	0.4	0.4	1.3	0.1	..	0.2	15.2
1973 .. ..	0.3	0.2	0.2	0.2	0.1	3.5	17.5
1974 .. ..	0.4	0.4	1.6	..	0.9	4.2	33.6
1974—							
March qtr ..	..	..	0.4	..	..	0.7	11.1
June qtr ..	0.2	0.2	1.2	..	0.9	1.1	6.9
Sept. qtr ..	..	0.2	..	..	..	0.2	8.5
Dec. qtr ..	0.2	..	..	..	..	2.1	7.2
WORKING DAYS LOST ('000)							
1971 .. ..	0.2	..	0.9	0.2	..	..	20.6
1972 .. ..	1.0	0.5	0.9	0.1	..	0.4	19.2
1973 .. ..	0.3	0.1	..	0.5	..	21.1	140.1
1974 .. ..	0.4	0.7	3.4	0.1	0.2	1.6	88.5
1974—							
March qtr ..	..	..	0.5	..	..	0.1	55.4
June qtr ..	..	0.5	2.9	0.1	0.2	0.4	12.7
Sept. qtr ..	..	0.2	..	..	..	0.7	7.5
Dec. qtr ..	0.3	..	..	..	..	0.5	12.8
ESTIMATED LOSS IN WAGES (\$'000)							
1971 .. ..	2.9	..	11.9	3.8	..	0.3	317.3
1972 .. ..	15.9	6.2	12.7	1.1	..	5.4	305.1
1973 .. ..	5.1	1.5	0.5	9.4	..	321.8	2 322.4
1974 .. ..	1.6	14.0	54.1	2.3	2.6	30.3	1 800.9
1974—							
March qtr ..	0.5	..	7.2	..	..	..	1 086.0
June qtr ..	1.1	9.9	46.4	2.3	2.6	7.7	256.9
Sept. qtr ..	..	4.0	0.5	..	..	12.6	158.3
Dec. qtr ..	..	..	..	..	..	10.0	299.7

(a) Includes: agriculture, grazing, etc.; finance and insurance; wholesale and retail trade; real estate and business services; electricity, gas and water; public administration and defence; and community services.



## Appendix A

### CHRONOLOGY AND LATER INFORMATION

#### CHRONOLOGY: THE YEAR 1975

December 1974 road toll only three compared with 24 in December 1973. Tasmanian suburban rail services ceased amidst protests from rail travellers. \$1m Hellyer Regional Library opened at Burnie. Doctors fees rose by up to 30 per cent. Bulk ore carrier *Lake Illawarra* rammed the Tasman Bridge, leaving a 128-metre gap and causing 12 deaths. Initial federal grant of \$13m for Tasman Bridge restoration announced. Marine Court of Enquiry into Tasman Bridge disaster convened. The H.E.C. commissioned to build a pontoon ferry terminal at Bellerive. Electrolytic Zinc Company reduced production by 20 per cent. Unemployment reached 4 per cent in Tasmania. Federal Government accepted, in principle, the takeover of Tasmanian Railways. T.A.B. began operating. Tasmanian Government experienced budgetary problems. Plans announced for a federally funded second Derwent crossing. Consumer price index rose 5.1 per cent in December quarter 1974. Plans for Bailey bridge crossing of Derwent announced. Tasmania's Budget deficit was \$19.7m for six months ended December 1974. State Branch of the National Party formed. \$11.6m additional federal funds granted to the State. New Supreme Court building opened at Salamanca Place. Federal Government to spend more than \$15m on upgrading railways. Sir Roland Wilson appointed adviser to the Prime Minister on Derwent River crossings. Mr E. E. Reece resigned as Premier following A.L.P. decision for compulsory 65 retirement; he later withdrew his resignation. Transmission of colour television programs commenced in Tasmania. Electrolytic Zinc Co. announced the retrenchment of 391 employees following a further 20 per cent reduction in production. A.P.P.M. closed down for two weeks to avoid retrenchment of staff at Burnie and Wesley Vale. A.P.M. mill at Port Huon closed for one month. Mr Reece officially resigned as Premier; Mr W. A. Neilson elected to fill the vacancy. Social Security benefits increased by \$5 for a single pensioner and \$8.50 for married couples. All employees under State awards to receive leave loading on holiday pay. Carbon dating of charcoal confirmed that Tasmanian Aborigines occupied Hunter Island 18 550 years ago. Federal and State governments negotiated a \$125m plan to upgrade the railways in Tasmania. Tasmania chosen for \$1m atmospheric monitoring station. Main-line railway blocked by a derailment at Rhyndaston. \$5m oil poppy processing plant to be established at Westbury. Australian National Hotels threatened large retrenchments if no tax concessions given to the Hobart casino. A.P.P.M. sought \$8m Federal Government loan. Hovercraft introduced for the Bellerive-Hobart ferry service. Arbitration Commission adopted wage indexation in principle; granted 3.6 per cent National Wage increase based on the Consumer Price Index. Marine Court of Inquiry found the master of the *Lake Illawarra* guilty of careless navigation. Veteran Sydney ferries *Lady Ferguson* and *Kosciusko* arrived in Hobart after a 29-day tow. Mr L. E. A. Costello resigned from Parliament. State Government banned the annual Avoca wallaby shoot. Four-day coastal shipping strike tied up all but Tasmanian passenger ships. Victorian Gas and Fuel Corporation signed a \$900m contract to buy all known reserves of natural gas from Bass Strait. *Tasman Bridge Restoration*

*Bill* passed by the Senate. Roads cut by floodwater in the Huon and Derwent Valleys. *Lady Ferguson* to be scrapped. N.W. Regional Water Scheme report recommended that a \$12m scheme be given priority. Appeal by conservationists against a prospecting licence for Precipitous Bluff area disallowed. Draft Management Plan for the South-West National Park officially released. Maximum rate of tax on casino earnings cut from 30 to 25 per cent. Mr Lance Barnard M.H.R. resigned his seat of Bass. Former Liberal Premier, Mr W. A. Bethune, resigned from Parliament. Pile driving commenced on temporary Derwent crossing. Government suspended its bid to acquire Partridge Island. Proposed National Maritime College to be built in Launceston. H.E.C. tariffs increased by 17½ per cent. Medibank agreement signed on behalf of the State. Tasmania's share of federal grants for 1975-76 was \$163.4m. Savage River Mines closed by strike. Plans released for second permanent Derwent crossing and additional lane for the existing bridge. Launceston to get \$12.5m Eastern Bypass Road. Liberal candidate Mr K. Newman elected to House of Representatives seat of Bass. Basic salary for State politicians raised by 30 per cent. A.P.P.M. retrenched 136 employees following breakdown of work-sharing proposal. Deputy Prime Minister, Dr J. F. Cairns, sacked from Cabinet. State Budget deficit a record \$13.6m for 1974-75. Federal Budget deficit \$2 561m. Professor Bloom claimed Derwent River pollution worst in the world. Metal workers' strike delayed work on Derwent River crossings. Wrest Point Casino plans for \$1m extensions announced. Four-day waterside workers' strike. Hobart C.P.I. increase 3.1 per cent for June quarter. A.N.L. interstate freight rates increased by 40 per cent and passenger fares by 30 per cent. Abalone diver taken by a shark off Fluted Cape. Postal charges increased by an average of 80 per cent. Telephone charges also increased substantially. Mr Brian Harradine, secretary of the T.T.L.C. expelled from the State Labor Party. TVT6 broadcasting licence suspended for two hours for breaches of advertising rules. A.P.P.M. retrenched 100 workers. Tasmania to receive \$7m under the *National Roads Act*. Deputy Premier, Mr Doug Lowe, resigned as president of the State A.L.P. branch. H. Jones and Co. retrenched 40 workers. Five million passengers carried across the Derwent in ferries in less than eight months. Upgraded Old Beach Road blocked by rock-falls following heavy rain. Bill introduced in Federal Parliament to provide \$3m for additional lane for Tasman Bridge. Tasman Bridge repairs halted by metal workers' strike. Petrol price increased by six cents per gallon. Vehicle registration fees and driving licence fees increased by 50 per cent. Two per cent levy introduced on mining production in excess of \$50 000 per quarter. Metal workers' strike ends after ten weeks. State Labor Caucus rejected plans for a granite quarry on Freycinet Peninsula. Position of Director-General of Tourism to be abolished. National Wage increased by 3.5 per cent in accordance with the June quarter Consumer Price Index increase; minimum wage increased by \$2.80. H.E.C. spending \$0.5m on repairs to the Scotts Peak Dam. Plans for a \$30m ferro-silicon plant at Electrona scrapped. State Government announced a relaxation of the recently implemented mining royalties. A sliding scale of payroll tax introduced for annual payrolls between \$46 000 and \$104 000. Final report on Derwent River pollution by Professor Bloom indicated that contamination originated from the E.Z. Co. plant at Risdon. Consultants warned that parts of the ruins at Port Arthur may already be beyond repair. Supply Bills blocked by the Senate in an attempt to force a general election. Craig collection of books and papers on early Tasmanian history realised \$341 000 at auction. The *Straitsman*, which sank in the Yarra River in March 1974, back in service. Devonport Council rejected N.W. Regional Water Scheme. Cadbury-Schweppes planned a 3.5-day working week to avoid staff retrenchments. Tenders called for \$11m maternity wing for the Royal Hobart Hospital. Arbitration Commission rejected claim for 0.8 per cent National Wage increase. Transport Commission vessel *Rab* for sale after one year in service. Torrential rains blocked Tasman Highway at

St Marys Pass. No-fault third party insurance premiums rose by 62 per cent from December. Work on Tasman Bridge reconstruction further delayed by strikes. New scales of personal income tax passed by the Senate. Prime Minister sacked by the Governor-General and the Leader of the Liberal Party appointed Caretaker Prime Minister pending a general election. State Government rescinded its decision not to allow granite quarrying on Freycinet Peninsula. \$0.5m fire destroyed part of the newly-constructed Macquarie Wharf No. 6 shed and 800 tonnes of newsprint. Mining royalties rates reviewed by the Government. Flash flooding in the southern Midlands took two lives and cut major roads and bridges. Three-man advisory committee set up to investigate the S.W. National Park Draft Management Plan. Further rains delayed repairs to roads damaged in earlier flash flooding. Houses unroofed in Launceston by 100 km/hr winds. Sesquicentenary of the separation of Tasmania from N.S.W. celebrated by a joint sitting of the Houses of Parliament. Licences granted to 574 Tasmanian farmers to grow oil poppies; \$5m processing plant to begin operating in 1976 at Westbury. In the general federal election which resulted in a landslide win for the Liberal Party, Tasmania returned: five Liberal candidates for the House of Representatives and five Liberal, four Labor and one independent (Mr Brian Harradine) for the Senate. Temporary Bailey bridge crossing on the Derwent opened to traffic. Partridge Island declared a State reserve. \$5m Police Academy completed at Rokeby. Extensive damage caused by vandals at the Hellyer Matriculation College building site. Hotels opened for the first day of Sunday trading under new State licensing laws. Sydney-Hobart yacht race record slashed by 11 hours by *Kialoa III*; *Rampage* won the race on handicap. *Helsal* took line honours in the Melbourne-Hobart race.

## LATER INFORMATION

### Chapter 2

#### *Tasmanian Sovereignty*

On 17 December 1975, the High Court of Australia announced its decision on an action by the six states challenging the validity of the federal *Seas and Submerged Lands Act*. This Act gives the Australian Government sovereignty over the Australian territorial sea, air space, sea-bed and subsoil; and over the continental shelf beyond the limits of the territorial sea. In their action, the state governments claimed that the sovereign powers given the states over their land mass carried with it sovereignty over the territorial sea adjacent to their coast lines for a distance of at least 3 miles (4.8 km). The full bench of the High Court dismissed the action by the states and upheld the validity of the *Seas and Submerged Lands Act*. Prior to this decision, Tasmania had claimed sovereignty (including mining and fisheries jurisdiction) over Bass Strait as far north as 39° 12' south latitude.

### Chapter 3

#### *December 13, 1975 Federal Election Results*

The following table lists the senators for Tasmania elected on 13 December 1975 together with party affiliation and year of retirement:

**Senate: Tasmanian Members**

Senator	Party affiliation	Retires in year
Archer, B. R. . . . .	Liberal	1978
Devitt, D. M. . . . .	A.L.P.	1978
Grimes, Dr D. J. . . . .	A.L.P.	1978

## Senate: Tasmanian Members—continued

Senator	Party affiliation	Retires in year
Harradine, R. W. B. .. .. .	Independent	1981
O'Byrne, J. H. .. .. .	A.L.P.	1981
Rae, P. E. .. .. .	Liberal	1981
Townley, M. .. .. .	Liberal	1981
Walters, M. S. (Mrs) .. .. .	Liberal	1978
Wriedt, K. S. .. .. .	A.L.P.	1981
Wright, R. C. .. .. .	Liberal	1978

The next table lists the Tasmanian members of the House of Representatives elected on 13 December 1975 and also shows the party affiliation and electorate of each member:

## House of Representatives: Tasmanian Members

Member	Party affiliation	Electoral division
Burr, M. A. .. .. .	Liberal	Wilmot
Goodluck, B. J... .. .	Liberal	Franklin
Groom, R. J. .. .. .	Liberal	Braddon
Hodgman, M. .. .. .	Liberal	Denison
Newman, K. E. (a) .. .. .	Liberal	Bass

(a) Federal Minister for Repatriation.

*State of the Parties:* A recount of the New South Wales Senate vote was to commence on 19 January 1976 but, if the fifth A.L.P. candidate held the one close seat as expected, the state of the parties in the Senate would be: Liberal, 27 seats; National Country Party, 8; Australian Labor Party, 27; Liberal Movement, 1; and Independent, 1 (total, 64). The state of the parties in the House of Representatives was as follows: Liberal, 68; N.C.P., 23; and A.L.P., 36 (total 127).

## Chapter 5

## The 1975-76 Personal Income Tax System

The amendments to the income tax law which followed the 1975-76 Federal Budget resulted in considerable changes in the personal income tax system. (The necessary legislation was passed by the Senate on 6 November 1975.) The features of this new system are outlined below and a table is included which allows comparisons to be made between amounts of tax payable in 1975-76 under the new system with the tax on comparable amounts of income in 1974-75. The new P.A.Y.E. tax scales which came into effect on 1 January 1976 incorporate the general concessional rebate of \$540 to which all resident taxpayers are entitled as well as rebates of tax for the maintenance of dependants, etc. The new rates of tax instalments will result in P.A.Y.E. deductions that more closely match the tax payable on end-of-year tax assessments.

*Taxable Income, Gross Tax and the Tax Scale*

The starting point for calculating tax under the new system is to calculate 'taxable' income. This is gross income excluding income which is specifically exempt, less: (i) expenses incurred in earning that income; (ii) subscriptions to any trade, business or professional association or union; (iii) deductions for gifts to approved funds or institutions; and (iv) deductions for housing loan interest (the latter deduction calculated in the same way as for the 1974-75 income year). Once the taxable income has been determined, *gross tax* is calculated according to the tax rates as shown in the following table, column (2). (For 1974-75 tax rates see the table in the section on 'Australian Government Income Tax' in chapter 5.)

**Rates of Tax: Individuals, 1975-76 Income Year**

Total taxable income bracket		Marginal tax rate (a)	Gross tax payable		Net tax after deduction of \$540 minimum rebate	
Not less than	Not more than		On income within bracket specified in column (1)	Cumulative (i.e. payable on income shown in column (5))	On total taxable income of	Net tax payable
(1)		(2)	(3)	(4)	(5)	(6)
	\$	cents per \$	\$	\$	\$	\$
1	— 2 000 ..	20	400	400	2 000	..
2 000	— 5 000 ..	27	810	1 210	5 000	670
5 000	— 10 000 ..	35	1 750	2 960	10 000	2 420
10 000	— 15 000 ..	45	2 250	5 210	15 000	4 670
15 000	— 20 000 ..	55	2 750	7 960	20 000	7 420
20 000	— 25 000 ..	60	3 000	10 960	25 000	10 420
25 000 and over	..	65	..	..	..	..

(a) Marginal rate payable in respect of each dollar in the range specified.

*Rebatable Expenditure*

The previous table shows (column (6)) the tax payable by residents whose circumstances are such that the general concessional rebate of \$540 applies. For taxpayers whose rebatable expenditure exceeds \$1 350, the net tax payable is obtained by deducting from the gross tax 40 per cent of the rebatable expenditure. The various items of expenditure subject to rebate are shown in the next table:

**Personal Income Tax: Rebatable Expenditure Deductions, 1975-76**

Particulars	Maximum rebatable amount
	\$
Rates and land taxes on principal residence .. .. .	300
Medical, dental, optical, etc. expenses (a) .. .. .	no limit
Funeral expenses (a) .. .. .	100
Life insurance premiums and superannuation contributions (b) ..	1 200
Education expenses (c) .. .. .	250 (per student)
Self-education expenses .. .. .	250
Adoption expenses .. .. .	no limit
Calls paid on shares in afforestation companies .. .. .	$\frac{1}{2}$ amount paid

(a) In respect of a resident taxpayer and/or his 'dependants' who are residents.

(b) For benefit of the taxpayer, or the spouse or child of the taxpayer.

(c) In respect of taxpayer's child or other dependant under 25.

Where the rebatable amounts, as shown in the last table, total \$1 350 or less, details of the claims do not have to be submitted and the general rebate of \$540 applies.

### Dependant Rebates

Under the new system concessional allowances in respect of the maintenance of dependants are provided by means of further rebates against gross tax assessed. The following table sets out the maximum rebates allowable for each type of dependant:

Dependant Rebates, 1975-76

Dependant	Maximum rebate (a)
	\$
Spouse .. .. .	400
Daughter-housekeeper .. .. .	400
Child under 16 years and not a student—	
One child .. .. .	200
Each other child .. .. .	150
Student (b) .. .. .	200
Invalid relative .. .. .	200
Parent or parent-in-law .. .. .	400

- (a) If a person in one or other of these dependant categories is a dependant during part only of the year of income (such a person residing with the taxpayer is ordinarily regarded as a dependant throughout the period of residence) the maximum rebate is proportionately reduced.
- (b) Under 25 years of age and receiving full-time education at a school, college or university.

Where a person has a separate net income in excess of \$150 while a dependant of a taxpayer the rebate otherwise allowable is reduced by \$1 for every \$4 by which the separate net income in that year exceeds \$150, irrespective of the period over which the person has derived the income. When two or more people contribute to the maintenance of a person who is a dependant of both of them the rebate allowable is apportioned between the contributing taxpayers.

A concessional rebate of \$400 is allowable to a resident taxpayer in respect of a housekeeper who, during the whole of the year of income, is wholly engaged in keeping house in Australia for the taxpayer and has the care of: (i) a child or step-child of the taxpayer who is less than 16 years of age; or (ii) any other child under 16 years of age or invalid relative in respect of whom the taxpayer is entitled to a rebate; or (iii) the taxpayer's spouse if in receipt of an invalid pension under the *Social Services Act*. If these conditions apply for only part of the year, a proportionate rebate may be allowed. Where the taxpayer is married, a rebate may be allowable for a housekeeper if the housekeeper is engaged in caring for an invalid spouse (see (iii) above) or the Commissioner of Taxation is of the opinion that, because of special circumstances, it is just to allow a rebate. The rebate is not allowable in respect of any period during which the taxpayer is entitled to a deduction for a daughter-housekeeper.

A concessional rebate of \$200 is allowable to a sole parent (i.e. a resident single, widowed or divorced person who has the sole care of a child under 16 years of age or a student (up to 25 years of age) in respect of whom a rebate is allowable) who is not entitled to a rebate for a housekeeper or daughter-housekeeper.

A separate rebate is allowable to residents of prescribed zones.

### Tax Payable, Comparisons

The next table shows the gross tax and the maximum tax payable by residents on selected net incomes under the new tax system. It also allows comparisons to be made of tax payable under the new system and the system it replaces for taxpayers with selected concessional allowances (i.e. deductions or rebatable expenditure).

Comparison of Tax Payable at 1974-75 Rates with 1975-76 Rates (a) (b)

Net income (c)	1975-76 tax system		1974-75 tax schedule			Tax payable with following rebates/deductions			
	Gross tax	Maximum tax payable (i.e. no dependants and rebatable expenditure of \$1 350 or less) (b)	Tax payable if no deductions	Taxable income if concessional deductions (not including dependants) of \$1 350	Tax payable after concessional deductions of \$1 350 (d)	Dependent wife and three children under 16 years (including two students) plus concessional allowances of—			
						\$1 350		\$2 500	
						1975-76	1974-75	1975-76	1974-75
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
\$	\$	\$	\$	\$	nearest \$	\$	nearest \$	\$	nearest \$
2 000 ..	400	..	80	650	..	..	..	..	..
3 000 ..	670	130	220	1 650	56	..	..	..	..
4 000 ..	940	400	420	2 650	171	..	(e) ..	..	..
5 000 ..	1 210	670	680	3 650	350	..	(e) ..	..	(e) ..
6 000 ..	1 560	1 020	1 000	4 650	589	20	(e) 131	..	(e) ..
7 000 ..	1 910	1 370	1 380	5 650	888	370	(e) 430	..	(e) 92
8 000 ..	2 260	1 720	1 820	6 650	1 247	720	(e) 789	260	(e) 382
9 000 ..	2 610	2 070	2 300	7 650	1 666	1 070	1 192	610	(e) 732
10 000 ..	2 960	2 420	2 780	8 650	2 132	1 420	1 603	960	1 135
11 000 ..	3 410	2 870	3 300	9 650	2 612	1 870	2 063	1 410	1 537
12 000 ..	3 860	3 320	3 820	10 650	3 118	2 320	2 543	1 860	1 991
13 000 ..	4 310	3 770	4 370	11 650	3 638	2 770	3 043	2 310	2 471
14 000 ..	4 760	4 220	4 920	12 650	4 178	3 220	3 563	2 760	2 965
15 000 ..	5 210	4 670	5 470	13 650	4 728	3 670	4 098	3 210	3 485
16 000 ..	5 760	5 220	6 020	14 650	5 278	4 220	4 648	3 760	4 016
17 000 ..	6 310	5 770	6 620	15 650	5 828	4 770	5 198	4 310	4 566
18 000 ..	6 860	6 320	7 220	16 650	6 410	5 320	5 748	4 860	5 116
19 000 ..	7 410	6 870	7 820	17 650	7 010	5 870	6 324	5 410	5 666
20 000 ..	7 960	7 420	8 420	18 650	7 610	6 420	6 924	5 960	6 234
25 000 ..	10 960	10 420	11 620	23 650	10 756	9 420	10 024	8 960	9 288
30 000 ..	14 210	13 670	14 820	28 650	13 956	12 670	13 224	12 210	12 488
35 000 ..	17 460	16 920	18 020	33 650	17 156	15 920	16 424	15 460	15 688
40 000 ..	20 710	20 170	21 220	38 650	20 356	19 170	19 624	18 710	18 888
45 000 ..	23 960	23 420	24 570	43 650	23 666	22 420	22 899	21 960	22 129
50 000 ..	27 210	26 670	27 920	48 650	27 016	25 670	26 249	25 210	25 479

(a) Changes in the taxation laws to give effect to the new system apply in respect of income derived in the year ending 30 June 1976, but P.A.Y.E. deductions were not changed until the first pay day on or after 1 January 1976.

(b) A \$540 tax rebate from 'gross tax' (or a reduction of tax to nil if gross tax is \$540 or less) applies for the 1975-76 income year (in respect of rebatable allowances for medical and education expenses, rates on private homes, life insurance premiums and superannuation contributions, etc.). If the sum of these rebatable amounts (other than dependant rebates, etc.) is greater than \$1 350 a larger rebate from gross tax equivalent to 40 per cent of the sum of these allowances applies. Concessional deductions of \$1 350 are assumed in column (6) in order to allow a true comparison with the 1974-75 scheme for a person with exactly \$1 350 in expenditure subject to rebate under the 1975-76 scheme (column (3)).

(c) Net income is total income (other than exempt income) reduced only by deductions allowed for amount expended in earning the income. For this table, in order to avoid unnecessary complications, it is assumed that there are no allowable deductions for amounts expended in earning the income, for union dues, for housing loan interest or gifts to approved funds and institutions. Under the new system, these deductions are subtracted from total income to give 'taxable income' before gross tax (as in column (2)) is calculated.

(d) Comparable with column (3) (tax payable under new system with rebatable expenditure of \$1 350 or less).

(e) After allowance of low income family rebate which applied where the tax saving resulting from the allowance of the dependants deduction was less than 40 per cent of the amount of the deductions.

## Chapter 6

*Revised Criteria for Distinction between Urban and Rural, 1976*

For the 1976 population census, the statisticians agreed that the concept of an *inner* and *outer* boundary be adopted for all towns and cities with populations of 25 000 or more persons. (Previously this concept was only applied to cities with an urban population of at least 75 000 and a regional population of 100 000—see the section 'Distinction Between Urban and Rural' in chapter 6.) This decision affected Tasmania since the Launceston area met these criteria. Accordingly it became necessary to delineate a Launceston Statistical District (see below).

*The Launceston Statistical District*

For the purposes of presenting the results of the 1976 Census, *two* boundaries around Launceston have been drawn:

- (i) a fixed *Outer Boundary* (Launceston Statistical District) enclosing the area of expected urban growth during the next two decades (broadly this comprises the City of Launceston and parts of seven other municipalities); and
- (ii) a flexible *Inner Boundary* (Urban Launceston) which moves towards the Outer Boundary as urbanisation develops. This area in 1976 comprised the continuous area of urban development centred on Launceston City and included parts of the municipalities of Beaconsfield, Westbury, Evandale, St Leonards and Lilydale.

The delineation of the Launceston Statistical District was based on the assumption that northern development of the urban aggregate would tend to thrust along the axis of the Tamar River. Accordingly it was decided that the district should extend to Bass Strait to take account of the region's unique geography (Launceston City is the southern terminus of 60 kilometres of navigable river with major ports and major industries situated close to the northern river mouth).

The logic of forming a district from Launceston City and *parts* of seven other municipalities was as follows: (i) parts of Beaconsfield, Westbury, Evandale, St Leonards and Lilydale were already included in the aggregate known as Urban Launceston; (ii) in the south, the border of Longford Municipality was only a kilometre or so from the boundary of Urban Launceston; and (iii) in the north, George Town municipality was the site of Launceston's major port (Bell Bay), of the State's aluminium refinery and of two major plants exporting woodchips; the George Town-Launceston link has been reinforced in recent years by the construction of a railway. The unity of the region is emphasised by the downstream Batman Bridge linking George Town and Beaconsfield municipalities.

Users of statistics wanting valid north-south comparisons should note that the Launceston Statistical District was delineated on the basis of the same principles as the Hobart Statistical Division. To the extent that drawing both areas involved forecasts of where future growth will occur, there is of course an element of subjectivity which cannot be avoided. Nevertheless these two areas are recommended as a sound basis for making north-south comparisons. Statistics relating to the new Launceston Statistical District are expected to become available from July 1976.

With the formation of a Launceston Statistical District, the opportunity existed to simplify the geography of the Northern Statistical Division which could have been presented as: (i) the Launceston District; and (ii) the balance of the Division. This alternative was rejected because data for the District would only begin from 1976 whereas data for the Tamar Subdivision could be taken back to 1919 for many series.



## Appendix B

### ECONOMIC CENSUSES

#### CONCEPTS AND DEFINITIONS

Commencing with the year 1968-69 integrated economic censuses were introduced for the following sectors of the economy: mining; manufacturing; electricity and gas; retail trade; and wholesale trade. For the 1968-69 and subsequent economic censuses uniform definitions and concepts have been used. This allows inter-sector comparisons and increases the usefulness of the data derived from censuses for economic analysis and market research. The following summarises the definitions and concepts used in the censuses:

*Establishment:* Generally the establishment is the whole of each physical location operated by one enterprise, given that the main activity of the establishment is within scope of the census. Usually only one return is submitted for each establishment *classified to the industry of its main activity*. Principal exception to the 'one return one establishment' rule is where a secondary activity at a location creates gross receipts of \$1m or more. In such cases the secondary activity may have to be reported on a second return appropriate to its industry or its sector. Details for *administrative offices and ancillary units* (such as head offices, storage depots, garages, laboratories, etc.) which serve or administer establishments within the same enterprise but which are located away from them are treated as follows: (i) if only one establishment is served or administered then details are included in the establishment return; or (ii) if more than one establishment is served or administered details are included on the enterprise return. *Manufacturers' sales branches* located away from the parent manufacturing establishment are treated as ancillary units provided they do not distribute goods to customers from their own holdings of stocks. If the unit does distribute from stocks in this manner then it is treated as an establishment and included in the wholesale sector.

*Electricity and Gas Industries—the Exception:* The single operating location is not suitable as a basis for enterprises engaged in producing or distributing electricity or gas. Therefore for electricity and gas industries, a special treatment was devised—the establishment unit for these industries consists of all locations operated by the enterprise in the one state.

*Enterprise:* This is broadly the operating legal entity and is the key unit for the collection of information. Where a number of legal entities operate as a group, owned or controlled by a single company, the enterprise is not the group as a whole, but each individual operating legal entity in the group.

*Enterprise Group:* Comprises a group of operating legal entities owned or controlled by a single company.

*Value Added:* Common to all sectors covered by integrated economic censuses is the following definition: value added *equals* turnover *plus* increase in stocks *minus* purchases, transfers in and selected expenses. The value added measure can then be aggregated for all establishments and sectors covered by the censuses

*without duplication.* In broad terms value added is the surplus from which establishments pay wages and salaries, interest, depreciation, rents and overheads. The remainder is available for appropriation as profits.

*Turnover:* The definition of turnover is as follows: (a) In manufacturing and mining censuses: (i) sales of goods produced by the establishment; (ii) sales of goods not produced by the establishment; (iii) transfers out of goods to other establishments of the same enterprise; (iv) bounties and subsidies on production; (v) all other operating income but excluding revenue from rent and leasing, interest other than hire purchase interest, dividends and sales of fixed tangible assets; and (vi) capital work done for own use or for rental or lease. (b) In retail and wholesale trade censuses: (i) sales of goods (owned by the enterprise); (ii) transfers out of goods to other establishments of the same enterprise (applies only to wholesale); (iii) selling and purchasing commissions received (applies only to wholesale); (iv) all other operating income but excluding items specified in (a) (v) above; and (v) goods withdrawn from stock for own use (as fixed tangible assets, or for rental or lease).

*Purchases and Selected Expenses:* Are defined as follows: (a) In manufacturing and mining censuses: (i) the value of purchases of materials, fuels, electricity and gas, and wrapping and packaging materials is supplemented by the value of transfers in from other establishments of the enterprise; (ii) purchases of goods for resale are included as well as purchases for own use in production; and (iii) selected expenses comprise repair and maintenance expenses, charges for sub-contract and commission work, outward freight and cartage, motor vehicle running expenses and sales commission payments. (b) In retail and wholesale trade censuses: (i) the value of purchases of goods for resale is widened to include purchases for both wholesale and retail trade, no matter whether the establishment is primarily a retailer or a wholesaler; (ii) the value of purchases also includes purchases of materials for manufacturing to cover cases where the retail or wholesale establishment has this secondary activity; and (iii) selected expenses comprise those specified in (a) (iii) above *plus* purchases of wrapping and packaging materials, and electricity and gas (see item (a) (i) in preceding manufacturing and mining group for the reason for this addition).

*Stocks:* Are the total held by the establishment and may therefore include some stocks held for secondary activities, e.g. a manufacturing establishment may have, in its stocks figure, merchantable goods held or a retail establishment may include in its return, stocks held for wholesaling and manufacturing.

*Transfer Values:* Transfers, both in and out, are confined to transfers of goods; the term is further narrowed to mean transfers between establishments of the same enterprise. Provision exists for recording transfers in all census sectors except retail trade and here the instruction requires purchases to be reported inclusive of transfers in, but net of transfers out. Thus, transfers are taken into account in arriving at value added since transfers out, as just defined, are a part of turnover and transfers in are a part of purchases and selected expenses.

*Employment, Salaries and Wages:* In accordance with the new concept of treating the establishment as a whole, all employees are entered, including those working in administrative offices and ancillary units which serve only the one associated establishment.

*Fixed Capital Expenditure:* The general basis for collection is: purchases of new and second-hand assets *less* sales of second-hand assets. (For establishments of multi-establishment enterprises, transfers from other establishments of the enter-

prise are treated as purchases and transfers to such establishments are treated as sales.) The dissection of fixed capital expenditure comprises expenditure on: (i) motor vehicles; (ii) land and buildings; and (iii) plant and machinery. A further distinction is made between new assets and secondhand assets.

*Industrial Classification*

The Australian Standard Industrial Classification (ASIC) was adopted for use in the 1968-69 and for subsequent economic censuses. ASIC defines the industries for which statistics are collected in the censuses and allows the scope of the individual censuses to be marked out without gaps or duplications between them. It also identifies the statistical units (establishments, enterprises, etc.) and lays down standard rules for identifying and coding them to industries of the classification. A detailed description of ASIC may be found in the Bureau publication 'Australian Standard Industrial Classification (Preliminary Edition) 1969, Vol. 1'.

## PUBLICATION OF TASMANIAN STATISTICS

### HOW TO OBTAIN CURRENT PUBLICATIONS

#### General

The Tasmanian Office of the Australian Bureau of Statistics is located in the *Australian Government Centre at 188 Collins St, Hobart*. Requests for statistical publications can be made by calling at this address; by phoning, *Hobart 20 5011*; or by writing to the *Deputy Commonwealth Statistician, G.P.O. Box 66A, Hobart, 7001*.

Service to the public is not restricted to the distribution of publications. If no publication adequately covers the subject matter of the enquiry, then a special extraction of the data required may be undertaken if they are readily available from the basic records held in the office.

#### Historical

Before the appointment of the first Government Statistician in Tasmania in 1867, statistics had been published in the official 'Blue Books' compiled by the Colonial Secretary during the period 1822-1855, and in volumes entitled *Statistics of Tasmania* after self-government was granted.

By the *Commonwealth and State Statistical Agreement Act 1924*, the Tasmanian Parliament ratified an agreement for the establishment of an office in Tasmania of the Australian Bureau of Statistics, such office to meet the statistical needs of the State Government; provision was made for the Deputy Commonwealth Statistician, an Australian Government officer, to hold, at the discretion of the State Government, the title of (State) Government Statistician. The first officer appointed in this way was L. F. Giblin, M.C., D.S.O., who had previously been the State Government Statistician. (It was not until the late 1950s that similar arrangements were made in the other Australian states.)

#### *Statistics from 1804*

In the Archives Office of Tasmania, the following series are available:

- (i) *Statistical Account of Van Diemen's Land or Tasmania, 1804 to 1854* compiled by Hugh M. Hull (Office of the Colonial Secretary).
- (ii) Official 'Blue Books' for period 1822-1855.
- (iii) *Statistics of Tasmania*—annual publications from 1856 to 1922-23.
- (iv) *Statistics of the State of Tasmania*—annual publications commencing 1923-24 and continuing to 1967-68. (Copies of these volumes are held at the University Library, the State Library in Hobart, the Public Library in Launceston and the Tasmanian Office of the Australian Bureau of Statistics.) Although the bound volume entitled *Statistics of the State of Tasmania* has been discontinued as from the 1967-68 issue, the component parts are still published as separate bulletins.

Copies of publications listed under (i), (iii) and (iv) above, are available for inspection at the Tasmanian Office of the Bureau.

#### Current Publications of the Tasmanian Office

The Tasmanian Office of the Australian Bureau of Statistics is engaged in a continuous publication program, the statistics appearing in either for sale or not for sale publications.

The not for sale publications (publications available free of charge) can be further dissected into annual bulletins and press releases. The press releases are issued with a view to making the statistical information available as soon as possible after compilation. Bulletins contain greater detail than press releases, but because of time taken to compile and print are issued some time after the period to which they refer. The two principal for sale publications issued by the Tasmanian Office of the Bureau are the *Tasmanian Year Book* and *Pocket Year Book of Tasmania*.

The following table lists the for sale and not for sale publications issued by the Tasmanian Office:

**Publications of the Tasmanian Office of the Australian Bureau of Statistics (a)**

Ref. no.	Publication
GENERAL PUBLICATIONS	
G 13	Compendium of Municipal Statistics irr
G 32	Monthly Summary of Statistics m
G 02	Pocket Year Book of Tasmania (\$0.50, plus postage) a
G 06	Statistical Summary of Tasmania (\$0.40, plus postage) irr
G 01	Tasmanian Year Book (\$5.00 plus postage) a
STATISTICAL BULLETINS (generally at least 20 pages)	
P 05	Agricultural Industry a
P 12	Building Industry a
D 48	Causes of Death a
D 03	Demography a
D 58	Education a
D 21	Hospital Morbidity a
I 22	Index of Towns, Localities and Standard Area Codes irr
D 23	Industrial Accident Statistics a
F 04	Labour, Wages and Prices a
F 27	Local Government Finance a
M 29	Manufacturing Establishments, Details of Operations and Small Area Statistics a
D 49	Mental Health Statistics a
P 31	Mining Industry a
F 39	Private Finance a
D 59	Public Justice a
R 41	Retail and Selected Service Establishments irr
T 51	Trade and Shipping a
R 54	Wholesale Establishments (Economic Census) irr
PRESS RELEASES	
I 57	Accommodation Establishments (occupancy survey) q
P 07	Agricultural Statistics (preliminary) a
P 08	Apples and Pears Held in Cool Stores m (seasonal)
P 09	Bee Farming Statistics a
P 10	Building Approvals, Monthly Bulletin of m
P 11	Building Statistics, Quarterly Bulletin of q
P 14	Crop Statistics a
P 15	Dairy Industry, Statistics of the a
P 34	Farms, Number of, Employment, Machinery, Irrigation and Fertiliser Usage a
..	Friendly Societies, Report on a
P 19	Fruit Production a
P 20	Hop Production a
F 24	Industrial Disputes a
F 16	Insurance, Fire, Marine and General a
P 25	Livestock Statistics (preliminary) a
P 26	Livestock Statistics (final) a

## Publications of the Tasmanian Office of the Australian Bureau of Statistics (a)—continued

Ref. no.	Publication
M 28	Manufacturing Census, Preliminary Results Analysed by Stat. Divs a
P 30	Meat, Production of a
T 33	Motor Vehicle Registrations m
D 35	Population and Vital Statistics q
D 36	Population of Local Government Areas a
P 37	Potato Statistics a
P 38	Poultry Statistics a
M 40	Productive Activity, Miscellaneous Indicators of m
T 45	Road Traffic Accidents Involving Casualties q
T 46	Road Traffic Accidents Involving Casualties a
M 47	Sawmilling, Woodchipping, etc. Statistics m
T 50	Trade, Overseas a
T 52	Trade, Overseas and Interstate (by sea and air) (discontinued)
P 53	Value of Primary Production (excluding mining) a
R 55	Wines and Spirits, Wholesale Sales and Stocks of a
P 56	Wool Production Statistics a

(a) Unless a price (excluding postage) is also given, the publication is available free of charge (in limited numbers). The symbols used indicate the frequency of publication as follows: m—monthly, q—quarterly, a—annual and irr—irregular.

## TASMANIAN STATISTICS IN CENTRAL OFFICE PUBLICATIONS

## General

Although publications of the Tasmanian Office of the Australian Bureau of Statistics make available statistics on many aspects of the State, there are some fields in which additional or more frequent information is available in publications of the Central Office.

## How to Obtain Central Office Publications

Central Office printed publications may be *bought* direct from the Australian Government Publishing Service (Canberra), the Australian Government Publications and Inquiry Centre at 162 Macquarie Street, Hobart or from the Tasmanian Office of the Australian Bureau of Statistics; they may also be ordered from leading booksellers in the principal centres. A standing order may be placed with the Australian Government Publishing Service, Canberra, with whom a credit account may be arranged.

In addition to printed publications for which a charge is made, there are other Central Office publications (mimeographed, etc.) which may be obtained free of charge from the Commonwealth Statistician, Canberra.

## Subject Matter of Central Office Publications

The fields of statistical enquiry covered in Central Office publications are very wide and the best way to obtain a guide to the material available is to write to: *The Commonwealth Statistician, G.P.O. Box 17, Canberra* and ask for the booklet *Publications of the Australian Bureau of Statistics*. Copies of this guide are also available at the Tasmanian Office of the Bureau. This free, comprehensive guide lists the publications of the Central Office and of the state offices; in addition, it contains a subject index.

Readers with interest in a particular field are invited to call at, or write to, the Tasmanian Office which is in a position to give advice on what publications are available.

## INDEX OF SPECIAL ARTICLES

The articles are indexed to broad subject areas rather than to detailed items, articles of an historical nature are indexed under the entry 'Historical articles'. Articles which appear in several editions have been indexed to the year, edition number and pages on which the main articles were first published. This index includes special articles appearing in the first 10 issues of the *Tasmanian Year Book* (from 1967 to 1976).

### A

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